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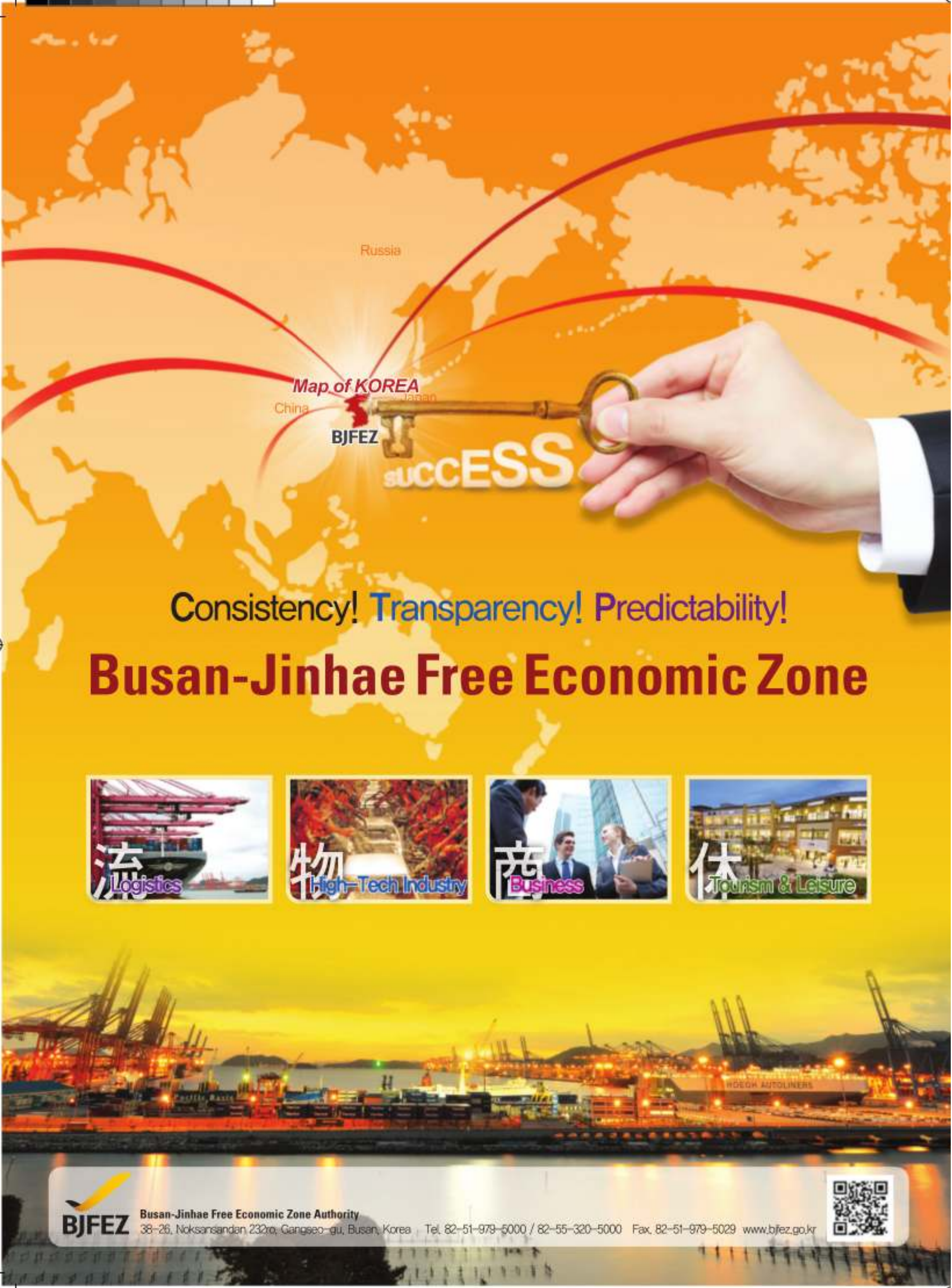
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C O N T E N T S

Exports : Good Performance Despite Mounting Threats

President Park Geun-hye is awarding "I Billion Dollar Prize" to Hansae chairman Kim Dong-Nyung at the ceremony of the 51st Trade Day.

Lee Jae-yong, vice chairman of Samsung Electronics.

Chung Mong-koo, chairman of Hyundai Motors.

INDUSTRY & COMPANY

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LG U+ employees demonstrate the use of a smart locker system in a subway station that accepts a variety of payment systems wirelessly.

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Revision of Korea-US Nuclear Agreement

The discussion of the revision of the Agreement for Cooperation between the Government of the Republic of Korea and the Government of the United States of America concerning Civil Use of Atomic Energy is likely to continue to next year. The talks began in August 2010, and the termination of the agreement has been postponed until March 2016.

Korea has developed its own nuclear industry because of the agreement, fully supported by the United States. The sector has shown rapid growth, and Korea is now one of the world's five major atomic power plant exporters, doing business in the United Arab Emirates and Jordan with opportunities in Saudi Arabia, Vietnam, and many more. Under the circumstances, Korea has called for spent nuclear fuel concentration and reprocessing to stabilize the fuel supply, better meet national power demands, and expand overseas business.

This request has been the main obstacle in negotiations with the U.S., which has been in pursuit of denuclearization across the world. In compliance with the Nuclear Non-Proliferation Act and the Atomic Energy Act, the U.S. government specified nine safety measures for nuclear materials supplied by the U.S. in the agreement. These are the IAEA's safety requirements: guarantee of peaceful use, guarantee of sensitive technology transfer and return claims, physical protection, re-transfer, concentration, reprocessing, alteration in shape, alteration in content, and right to consent to storage.

From Korea's perspective, the most important issue is energy security, which can be achieved through stable nuclear fuel supply and the safe control of spent nuclear fuel. Enriched uranium should be supplied at the right time and advanced techniques for spent fuel storage, transport and disposal should be shared and developed. If the gap between the opinions of the two nations is to be narrowed, Korea needs to show that it is willing to pursue non-proliferation by amending relevant laws and regulations.

At the same time, legal and systemic efforts should be extended for the effective implementation of the agreement that will be the foundation of nuclear policy and mutual collaboration for decades to come. Korea was introduced to its nuclear technology by the U.S. from the beginning, and thus it is impossible for the former to export atomic power technologies while ruling out American components and techniques. As seen in the cases of the projects in the U.A.E., U.S. corporations such as Westinghouse and Bechtel are in charge of the supply of many components. This is closely related to price competitiveness and successful bidding, too. The U.S. is also seeing Korea as an important partner in the atomic power industry, because Korea's overseas projects can contribute to job creation in the U.S. as well.

Moreover, the Korean government must allow for the current situation in which public awareness of the environment and safety is increasing beyond concerns about the economic development and energy supply aspects. The government has to elaborate on how much it has done already, and what it will do in the future, for nuclear safety. The revision of the agreement is an issue of high political volatility and the administration should develop an adequate plan to muster public support.

Park Jung-hwan,
Publisher & Editor-in-Chief

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2 Trillion Deal

Samsung, Hanwha Groups Agree to Big Deal in Defense, Petrochemical Sectors


Lee Jae-yong, vice chairman of Samsung Electronics.

The Samsung Group is selling Samsung Techwin, Samsung Thales, Samsung Fine Chemicals, and Samsung Total to the Hanwha Group so as to withdraw from the petrochemical and defense industries, where it has failed to make profits, and concentrate its corporate resources on electronics, construction, and finance. The disposal is expected to help simplify the group's governance and shareholding structures, too.

The package deal was suggested by Hanwha this past spring. At that time, Hanwha was trying to reinforce its defense business capabilities, and began to take note of Samsung Thales. The Samsung Group, amid business structural reorganization, asked Hanwha to purchase its 32.4 percent of shares in Samsung Techwin, the parent company of Samsung Thales.

The scale of the M&A negotiations that kicked off in the defense sector grew due to the complex shareholding structures among Samsung's subsidiaries. Samsung Techwin owns 50 percent of the shares of Samsung Thales, and is the second-largest shareholder (22.73 percent) of Samsung General Chemicals, following Samsung C&T (37.28 percent). Samsung General Chemicals owns half of Samsung Total. This means that the acquisition of Samsung Techwin is connected to Samsung General Chemicals and Samsung Total as well as Samsung Thales.

"The two groups are sharing the same interests in this contract, that is, Samsung can dispose of the less profitable defense and petrochemical business units, and Hanwha can beef up its major business through the takeover," said an industry expert.

Hanwha to Grow in Stature

In the meantime, the Hanwha Group is expected to become the top defense and petrochemical company in Korea with the deal. In addition, the four subsidiaries' combined assets of 13 trillion won (US$11.8 billion) are predicted to increase Hanwha's total assets to over 50 trillion won (US$45 billion), so it ranks ninth among major business groups in Korea, overtaking the Hanjin Group.

Hanwha has been involved in the defense and chemical businesses since it was founded. Its name itself is a contraction of the words "Korean" and "gunpowder" in the Korean

language. Even now, these are highly important for its future growth momentums. Also, the reinforcement of these businesses has been very significant for its photovoltaic and advanced materials businesses that the group is concentrating on these days. In this vein, it was planning to better utilize Samsung Techwin's capabilities in fighter jets, helicopter engines, and robot manufacturing.

The problem was the complex shareholding structure that Samsung Techwin was involved in. Samsung Techwin was intertwined with the Samsung Group's petrochemical subsidiaries by owning, for example, 22.7 percent of Samsung General Chemicals. Hanwha could not acquire all of them. In the end, both parties agreed to Hanwha Chemical's acquisition of the petrochemical business unit of Samsung. Hanwha Chemical was positive about the takeover, and the targets of the deal came to cover all of the defense and petrochemical subsidiaries of Samsung.

Hanwha, which recorded sales of 1.0184 trillion won (US$924.22 million) in the defense sector last year, is sure to become the largest weapon manufacturer in Korea thanks to the contract because the sales of Samsung Techwin (963 billion won) and Samsung Thales (617.6 billion won) are added. In 2013, the top three in the industry were Korea Aerospace Industries (1.345 trillion won), LIG (1.208 trillion won) and Samsung Techwin.

Moreover, the takeover is to complete the vertical integration of Hanwha's guided weapon systems, as Hanwha's competitiveness in the warhead, driving, and propulsion fields will be combined with that of Samsung Techwin in monitoring and recon. Hanwha is forecast to work more aggressively on robotics systems by using the resources of Samsung Techwin, too. The 10 percent KAI shares of Samsung Techwin go to Hanwha as well, which means it could be engaged in aircraft manufacturing in the long term.

Hanwha is about to become number one in the petrochemical industry, too. The sales go up to approximately 18 trillion won (US$16.3 billion), slightly higher than those of LG Chem (17.5452 trillion won, or US$15.9161 billion as of the end of 2013). Samsung General Chemicals have produced purified terephthalic acid for polyester, and Samsung Total has produced polyethylene, polypropylene, styrene monomer, paraxylene, and other chemicals.

At the same time, Hanwha's ethylene production volume increases to 2.91 million tons, the ninth-highest worldwide, so that economy of scale and price competitiveness can be ensured in its petrochemical business. Samsung Total is also expected to allow Hanwha to restart its oil refining business after 17 years. BK

Money to be Secured?

Hanwha Says No Problem in Acquiring Samsung Subsidiaries

The Hanwha Group said that there is no money problem at all regarding its acquisition of four Samsung subsidiaries.

"There is no financial obstacle with regard to the big deal," said Hanwha Public Relations Manager Kang Ki-soo at a press conference on Dec. 3, adding, "It is said that our subsidiaries would be sold to prepare the money, but it is not true, and the deal will survive even after Samsung employees opposed to the contract establish an emergency committee."

The Hanwha Group is planning to launch due diligence of the four subsidiaries – Samsung Techwin, Samsung Thales, Samsung Total, and Samsung General Chemicals – in January next year. They plan to wrap up the process within three months, before completing the acquisition before the end of the first half of next year.

"The purpose of the deal is not a simple takeover but growth of the defense and chemical businesses with Samsung, to compete with global leaders like Lockheed Martin," he stressed.

Meanwhie, Hanwha Group will merge Hanwha Solar One and Hanwha Q Cells, two of the subsidiaries of Hanwha Chemical, to reshape its photovoltaic power generation business. Hanwha Solar One is to fully own Hanwha Q Cells through new stock issuance. So, The business consolidation is to be carried out solely by stock transfer, without any additional investment, and thus Hanwha Chemical can maximize the advantage. Its financial structure is predicted to be improved a lot as well.

Once the process is completed, the merged corporation will become the world's number one photovoltaic cell supplier with a manufacturing capacity of 3.28 GW. BK

GCF Fund Secured

Gathering of Financial Resources for GCF Complete

President Park Geun-hye cuts tape to open the GCF Secretariat in G Tower in Songdo, Incheon City, on Dec. 4, 2013. From left to right: Hwang Woo-yeo, Hyun Oh-seok, Park Geun-hye, Héla Cheikhrouhou, Jose Maria Clemente Sarte Salceda, and Jim Yong.

The Ministry of Strategy and Finance announced on Nov. 20 that 21 countries, including Korea, agreed to finance US$9.4 billion combined at the Green Climate Fund (GCF) Donor Conference held in Berlin, Germany. This means the preparation of the financial resources has been completed four years after the establishment of the fund.

Specifically, the United States shoulders US$3 billion, Japan US$1.5 billion, Britain US$1.2 billion, France and Germany US$1 billion each, Sweden US$580 million, Italy US$300 million, Spain US$160 million, Norway and the Netherlands US$130 million each, and Korea, Switzerland, and Finland US$100 million each. The amounts are to be paid by 2018.

At the same time, the donor conference participants encouraged other countries to chip in, while agreeing to expand their efforts to the private sector.

"The financing amount is higher than that of any other international initiative against climate change," the Ministry explained, adding, "It will be a great boon for the international community's endeavor to fight climate change."

Actually, the Green Climate Fund (GCF), which was launched in Korea in December last year, had suffered from a shortage of funds, developed countries including the U.S. and Japan has expressed intentions to donate.

On Oct. 23 (local time), President Park Geun-hye said that she will support the GCF at the U.N. Climate Summit with about US$100 million.President Park added, "We will show our cases of success and new project models to international society and will try hard to expand those to developing countries in cooperation with international organizations including GCF and the Global Green Growth Institute." Also, President Park said, "Our country already promised to donate US$50 million to the GCF, and will continuously extend donations up to US$100 million in the future."

The GCF was propagandized extensively as the "nation's first international finance organization" after its attraction to Korea was fixed during the previous administration in October 2012. The Korean government said the operating funds would exceed US$100 billion with over 50 staff members, and various kinds of climate change programs would be carried out in developing countries by securing funds from developed countries. The secretariat office of the GCF was established in Songdo, Incheon in December last year.

However, there had been no fund performance, even though it had been more than one year after its launch. Yoo Byeong-hee, director of the Green Climate Planning Department at the MOSF, said, "10 countries promised to donate US$3 billion for the fund, but there has been no donation from them yet."

In the meantime, the Wall Street Journal said on Nov. 14 (local time that President Barak Obama was planning to donate US$3 billion to the GCF. And the GCF's future was expected to get a green light after Obama agreed to reduce greenhouse gases with Chinese President Xi Jinping at the summit on Nov. 12 and Japan expressed its active participation in the future.

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Northern Trade

Rajin-Khasan Logistics Project Expected to Gain Momentum

A cargo ship waits to unload at Pohang, South Korea, on Nov. 29, after traveling from Rajin Port in North Korea as part of the test phrase of Rajin-Khasan Project.

A cargo ship that departed from Rajin Port in North Korea with Russian coal as a part of the Rajin-Khasan Project arrived off the shore of Pohang. The bulk carrier, borrowed by Hyundai Merchant Marine, left the North Korean port at 9:30 p.m. on Nov. 27 and arrived at its destination at 6:00 a.m. on Nov. 29. It has a crew of 24 Chinese sailors.

The ship carries 40,500 tons of Siberian bituminous coal, which had been transported by rail from Khasan to Rajin Port. The price of the coal and the transport cost are approximately US$4 million combined.

The cargo is scheduled to be moved to the nearby POSCO steel mill to be used in its blast furnaces. The steelmaker explained that the quality of the bituminous coal and the possibility of additional supply have yet to be determined, because the transport is a pilot project.

In the meantime, 13 South Korean personnel that had visited North Korea on Oct. 24 to check on the project returned to Seoul on the same day. "I visited Pyongyang with the other government officials and the consortium of POSCO, Hyundai Merchant Marine, and KORAIL to inspect the railway and harbor transport connection process, and all of us formed a consensus with Russia and North Korea," said KORAIL Manager Ji Yong-tae, adding, "The port and railway facilities in Rajin were better than we thought."

Behind this cooperation, there has been a mediation of Russia. Russia has made an aggressive proposition to South Korea for capital attraction and joint investment in North Korea. For this, Russia's Far East Development Minister Alexander Galushka visited Seoul on Nov. 27. Russian Deputy Prime Minister Yuri Trutnev is also scheduled to visit Seoul early December to ask for its investment in the Far East region of Russia and joint investment in the North.

On Nov. 27, Galushka met with Minister of Trade, Industry and Energy Yoon Sang-jik and Minister of Oceans and Fisheries Lee Ju-young that day. He discussed Korean companies' participation in an economic development zone to be set up by 2017 with the former, while having talks with the latter on the issue of port modernization projects in Vladivostok and Vostochny.

On Nov. 28, he met with Minister of Unification Ryu Kil-jae to discuss Russian companies' business in the Kaesong Industrial Complex, trilateral cooperation among both Koreas and Russia and the Siberian bituminous coal transport operation currently underway as a part of the Rajin-Khasan Project. It is said that he suggested the participation of Korean corporations in Mostovik's US$25 billion railway modernization project in the North.

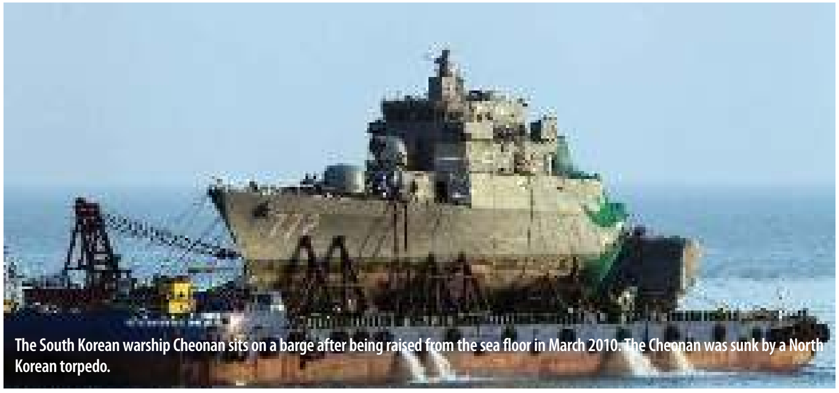
Earlier, Mr. Alexander Galushka met with North Korean Workers' Party Secretary Choe Ryong-hae when the latter visited Russia between Nov. 17 and 24. Therefore, he is expected to talk about the result of the visit with the South Korean government at this time. The minister flew to Pyongyang in March and October for economic cooperation between the North and Russia and Deputy Prime Minister Yuri Trutnev visited Pyongyang in April for the same purpose.

In the following month, Russia decided to write off North Korea's US$11 billion loan taken out during the Soviet Union era. Also, the two countries are accelerating their economic cooperation by means of ruble-based trade settlements, construction of Rajin Quay 3, and railroad modernization. Experts point out that Russia's ongoing efforts in the Korean peninsula are to tackle its economic difficulties caused by the economic sanctions by the United States and the EU, and the drop in international petroleum prices.

Under the circumstances, much attention is being paid to the conclusion of a formal contract for the Rajin-Khasan Project. The consortium is planning to participate in the project by purchasing half of Russia's shares in Rasonkon Trans, a joint venture established in 2008 by Russia and North Korea, at a cost of 180 to 200 billion won (US$161.2 to $179 million). The South Korean government is considering the project as an exemption to its economic sanctions on North Korea. BK

Lift Sanctions?

South Korea May Set Out to Discuss Pending Inter-Korean Issues Across the Board


The South Korean warship Cheonan sits on a barge after being raised from the sea floor in March 2010. The Cheonan was sunk by a North Korean torpedo.

"We need to try harder to address the separated families issue and be willing to give North Korea what it wants if necessary to that end," a high-ranking official in the South Korean government said on Dec. 5, adding, "Once an inter-Korean meeting takes place, agenda items of both Koreas should be talked over." He continued, "Our May 24 Sanctions may be properly handled in such a meeting as well."

Under the circumstances, it is said that the South Korean government is moving to discuss various issues with Pyongyang in a comprehensive manner, including the separated families issue. Still, the official stressed that the May 24 Sanctions would be lifted only after the North takes responsibility for the sinking of the Cheonan. According to insiders, opinions about the comprehensive approach are split in the South Korean government itself.

"Reunion of the separated families is one of the top priority issues with most of them growing older, which means a regular reunion and exchange of letters are urgent," he commented, adding, "When it comes to the cancellation of the second high-level meeting due to flyers, I think that the North took advantage of the matter, at least in part, to put pressure on us. We have to resolve this matter by means of talks nonetheless."

He also remarked that North Korea showed some extemporaneous aspects regarding its South Korea measures while solidifying the leadership of Kim Jong-un, and made some unreasonable requests during that time. "Nevertheless, Seoul has been generous about the humanitarian aid and social and cultural exchange between the two Koreas, trying to approve of as many of them as possible, and is willing to provide Jeju tangerines if Pyongyang makes a request for them," he went on to say.

He also praised the Park Geun-hye administration's North Korea policy for the past two years, dubbed the Korean Peninsula Trust-building Process, as based on well-established principles. However, he added that the government should be regretful of the continuation of the stalemate. BK

Northern Economy

New Economic Measures Expected in North Korea Next Year

Kyungnam University's Institute for Far Eastern Studies has predicted that North Korea will launch a new economic policy on or around its Workers Party anniversary on October 10, 2015.

"Pyongyang is likely to try to address its problems associated with the livelihood of the people in an effort to solidify Kim Jong-un's leadership, while mending its relations with China, Russia, Japan, South Korea, and the United States," it said, adding, "If the international community puts strong pressure on it surrounding the human rights issue, North Korea could tighten its relations with China and Russia and then the close trilateral relations witnessed during the Cold War era might be repeated."

The institute also stressed that the year of 2015 would be an opportunity for South Korea's Korean Peninsula Trust-building Process, because the Park Geun-hye administration passes the half-way point next year, and the North will be looking to attract foreign capital by opening its gates. BK


A photo of a store in North Korea taken in 2008. (Photo by Stephan via Wikimedia Commons)

Ordinary Wages

Pay Increase Rate Hiked for Expansion of Ordinary Wage

According to the Korea Employers Federation's recent data, 369 companies that finished this year's wage negotiations raised their wages by an average of 8.2 percent, 4.2 percentage points higher than a year ago. The companies' profitability is likely to deteriorate given that those listed on the Korean stock exchange showed a record-low business profit rate of 4.6 percent since the 2008 financial crisis last year.

"Such a high increase is because some of the corporations included regular bonuses in the ordinary wage in accordance with the ruling of the Supreme Court," the federation explained. It added, "The rate of wage increase was particularly high in major corporations where the ratio of regular bonuses is high."

The average rate was 4.2 percent, 0.2 percentage points up from the previous year, for those that did not make any adjustment regarding the scope of ordinary wages. Meanwhile, the rest of the 369 recorded a rate of increase of 13.8 percent on average. Specifically, it was 26.7 percent for those employing 1,000 or more persons, 9.6 percent for 100 to 299 employee companies, 6.3 percent for 300 to 499 employee companies, and 15.8 percent for 500 to 999 employee companies.

"The increase in the pay growth rate caused by the adjustment of the scope does not mean that the employees' salaries increase by the same margin," said the federation, continuing, "Instead, it acts as a factor of wage increases by resulting in an increase in benefits linked to ordinary wages, such as overtime pay."

Meanwhile, the management and employees had an average of 6.5 rounds of wage negotiations for 2.6 months this year. The numbers went up from 5.2 rounds and 1.9 months compared to the previous year, respectively. "This was because of various conflicting labor issues such as the scope of ordinary wages and the obligatory application of retirement at 60," the organization commented.

Labor Market Reform

in the meantime, the government will cut down on the privileges of permanent employees at larger corporations and public enterprises for labor market restructuring based on its judgment that excessive protection for them has hindered labor market flexibility. Its plan is to reduce their wages and working hours, rather than laying them off, to encourage the companies to provide longer contracts and wider social insurance for temps.

The specific measures will be released before the end of this year, along with long-term restructuring plans covering the labor, financial, education and housing markets.

"Existing seniority-based wage systems cannot be swallowed any more by corporations, and the systems have to focus on individual employees' jobs and performances for the extension of the retirement age to 60, which is scheduled to be in effect from 2016, to be successful," a government official explained, adding, "At present, a small number of regular workers cause most of the labor market rigidity, and we can take care of non-regular workers and subcontractor employees only when those at big businesses and state-run enterprises make concessions."

The government's measures to this end are expected to include the expansion of performance-based pay, wage peaks, and flexible working hours. At the same time, it is considering lengthening temp contract periods from two years to three while, providing social insurance benefits for them. BK

Retracting from Overseas

KEPCO to Cut Down on Overseas Resource Development

The Korea Electric Power Corporation (KEPCO) will sell or transfer its overseas resource development projects to other energy corporations in the public sector. The company has invested 1.6 trillion won (US$1.44 billion) in the projects over the last five years.

According to the Ministry of Strategy and Finance's plan, the five bituminous coal mining projects and five uranium mining projects of KEPCO are scheduled to be sold or transferred to the Korea Hydro & Nuclear Power Corporation by 2016. In addition, its oil and gas exploration projects are to be handed over to the Korea National Oil Corporation with the Korea Gas Corporation in charge of imports and distribution in Korea. The Korea Resources Corporation will take its mineral resources development projects.

Moreover, the overseas power generation projects of KEPCO and five of its subsidiaries, on which more than 3 trillion won (US$2.7 billion) has been spent, are going to be trimmed down. The 21 solar power generation projects underway in Morocco, Chile and the like will be cut in half, while the subsidiaries will dispose of six of their investment projects, including wind power generation in the Philippines. Some of their shares in the four thermal power generation projects in Chile and so on will be put up for sale, too.

At the same time, 63 employees in charge of resource development and 62 responsible for power generation projects are expected to be subject to restructuring by 2017. "Nothing has been fixed yet concerning the matter, and we are currently exchanging opinions with the Ministry of Trade, Industry and Energy," the ministry explained.

According to data from the parliamentary inspection of KEPCO in October this year, 12 out of the 25 subsidiaries of KEPCO were in the red last year. They recorded a current net loss of 56.3 billion won (US$50.6 million) combined, and KEPCO's loss is estimated to be over 34.8 billion won (US$31.3 million) given its share ratios.

The seven engaged in overseas resources development posted a net loss of 40.1 billion won (US$36.0 million) during the same period. In particular, the amount reached 27.1 billion won (US$24.3 million) in those projects in Canada, Australia, and Indonesia run solely by KEPCO. BK

Era of 2,000 Foreign Tourists at Hand

Better, Warmer Hospitality Necessary for 20 Million Inbound Tourist Era

More than 12 million inbound tourists visited Korea last year, and the number is likely to keep increasing to over 20 million in 2017. Still, the tourism industry has some tasks to address, including relaxing visa requirements and improving transportation and lodging infrastructure. The following is a recent interview with Kim Chul-min, director general for Tourism Policy at the Ministry of Culture, Sports and Tourism.

Kim Chul-min, director general for Tourism Policy at the Ministry of Culture, Sports and Tourism.

What was the tourism account balance last year, and what is your estimate for this year?

Approximately 12.17 million tourists visited Korea in 2013, showing 9.2 percent growth from a year ago. Nevertheless, the tourism balance was US$3.6 billion in the red, as Koreans flew overseas in large numbers.

Fortunately, the size of the deficit is on the decline. This year, the tourism revenue is expected to increase by 18 percent year-on-year to US$16.7 billion, and the deficit is estimated to be below US$3 billion. In September this year, the balance was US$80 million in the black for the first time since May 2012.

What are you planning to do to attract more than 20 million inbound tourists a year?

The Ministry of Culture, Sports and Tourism is planning to relax the visa regulations and improve transportation and lodging facilities so that more foreigners can travel in Korea with convenience. In addition, it is going to come up with unique tourism content by making use of Korea's cultural properties, ecological resources, and traditional culinary culture. This way, it is helping tourists look around various regions of Korea not limited to major cities like Seoul, Busan, and Jeju.

It is also working on high value-added industrial segments such as MICE, cruise tours, and medical tourism, while trying to widen the expert and human resources pool to provide high-quality services.

These days, experts point out the number of Chinese tourists in Korea is skyrocketing, but the country is short on infrastructure to accommodate them. What do you say?

A total of 4.32 million Chinese visited Korea last year, and the number is expected to increase to around 6 million this year. As you mentioned, accommodations are not enough, most of the

travel packages are cheap ones focusing only on shopping, and some travel guides are providing wrong information contrary to historical facts.

Recently, the government launched a plan to address the matters by raising the standards of travel guides accompanying Chinese tourists. According to these new standards, any travel agency caught hiring an unlicensed guide three times is to be deprived of its designation as an agency dedicated to Chinese tourists. Also, it is going to work with the Chinese government so that cheap group tour products can be rooted out, and Chinese travel agencies can be in better control.

The number of hotel rooms is expected to be increased by at least 5,000 this year alone. In this vein, the Ministry is trying to pass a revision to the Tourism Promotion Act in the National Assembly as soon as possible.

It is also said that the various systems in the tourism industry should be improved, and that corporate investment in the sector should be promoted. How can these requests be met?

The Ministry has already held two Tourism Industry Promotion Meetings with the authorities concerned and set out 77 tasks for systemic improvement and deregulation. Seventy percent of the tasks have been completed up by now.

What is the government's official stance on the controversial foreign-invested casino and resort complex in Yeongjongdo?

In March this year, the government told LOCZ Korea, which is engaged in the casino and resort projects in the Midan City of Yeongjongdo, that the casino project passed preliminary examination. This means that the company can receive the casino business license if it sincerely fulfills the investment plan. It seems that the actual permission will be granted after real investment is made.

Training of tourism experts with global perspectives is indispensable for higher competitiveness of the sector in the global arena. What are the ministry's measures to this end?

The tourism sector, including the MICE, depends greatly on the competitiveness of the human resources in it. The Ministry is currently moving ahead with phased and tailored education programs, internship programs in cooperation with businesses, and many more courses for those working in the industry. Moreover, it is striving to professionalize the workers by means of different licenses such as that of a Convention Planner.

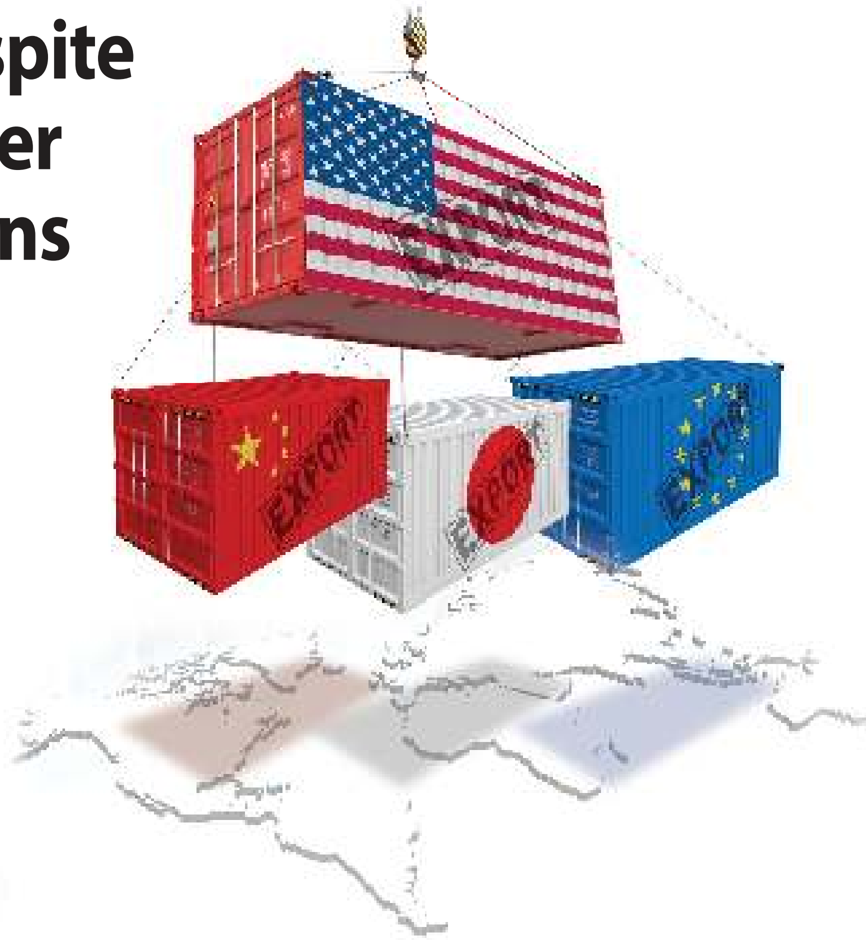
Also, the International Tourism Youth Expert system has been launched this year for the same purpose. The young experts will be divided into interns to join either international organizations in the industry, or ODA-providing entities. ODA interns' thoughts and ideas can be reflected to the actual tourism ODA policy if their projects are picked in competitions.

The government has tried to promote the so-called convergence tourism industry such as medical tourism. Please explain about the results and future plans.

Korea's medical tourism has grown at an average of 36.9 percent per year since 2010 after the attraction of foreign patients was allowed by the revised Medical Act in May 2009. Various marketing campaigns and system improvement projects have been implemented this year to let in 250,000 medical tourists. In addition, the online medical tourism platform was newly established this year to provide diverse services and information, while regional medical tourism clusters have been built to accelerate the growth of the sector. BK

Flipside of Trade Performance

Korean Exporters Concerned Despite Better-than-ever Trade Conditions



Korean companies are enjoying the best international trade conditions in recent history these days, with total exports on the rise and prices of imported goods on the decline along with international oil prices. However, their future outlook is rather dim as Japan, Europe, and China are trying to depreciate their currency values.

The Bank of Korea announced on Nov. 24 that Korea recorded an income in terms of trade index of 128.15 in October, the highest since the first data had been made available in 1988. The index increased by 4.6 percent from a year earlier and by 9 percent from the preceding month. The exports index reached 135.55 to set a new high, too, while the imports index dropped to a 50-month low of 100.55.

Korea also recorded US$1 trillion in annual trade value in November. This is the first time that Korea broke the mark so early. Its yearly total trade amount is estimated to reach over US$1.1 trillion at the end of this year.

According to the Ministry of Trade, Industry and Energy, its exports and imports for 2014 totaled US$520.2 billion and US$479.8 billion at 1:07pm on Nov. 28, respectively. Korea has surpassed the amount four times since Dec. 5, 2011, when the total was US$1.0796 trillion.

Such a feat is mainly because of the delivery of the ships that local shipbuilders have built for years, increasing exports of semiconductor chips for mass-market smartphones and the high popularity of Korean-made smartphones around the world.

The ministry is expecting that the annual trade amount will reach a new high this year with consumption showing signs of recovery in the United States and China, two of Korea's major export destinations.

Nevertheless, Korean companies are concerned over Chinese products. According to the Korea Center for International Finance, 62 percent of the 10 major export items of Korea and China overlapped with each other as of the end of September this year, with the percentage going up by 10 percentage points from a decade ago.

Under the circumstances, the Bank of China cut the key rate on Nov. 21 to potentially accelerate the depreciation of the yuan. The yuan was traded at US$6.1371 on November 24, losing 0.2 percent of its value from the previous session.

"Countries across the world are in the face of a supply glut nowadays amid an economic recession, and the currency depre-

ciation is likely to particularly affect Korea's steel, shipbuilding, and petrochemical sectors," said Ju Won, senior research analyst at the Hyundai Research Institute. "China is raising the rate of self-supply of intermediary and capital goods, which account for the best part of Korea's exports to China, and thus the interest rate cut is likely to result in a limited increase in Korean companies' exports at best."

Hanwha Investment & Securities analyst Park Sung-hyun commented by saying, "Rather, the restructuring of marginal Chinese companies could be accelerated in the wake of the rate cut."

Warning Light Shining for Top 3 Export Fronts

As the trades with China, Japan, and the E.U. decreased. Concerns over the export decrease are getting bigger due to a weak yen and the slowdown of the Chinese domestic market.

The Ministry of Trade, Industry and Energy (MOTIE) said in its report titled November Export and Import Trend (tentative) on Dec. 1 that exports reached US$46.99 billion, down 1.9 percent from a year ago. Imports recorded US$41.384 billion, down 4.0 percent compared to that of same period of last year. The trade balance reached a surplus of US$5.66 billion, continuing a trend for 34 consecutive months.

Although the exports and imports of November decreased, South Korea reached the trade amount of US$1 trillion for the shortest time in the year for 4 consecutive years since reaching the landmark in 2011. Head of MOTIE trade investments Kwon Pyeong-ho said, "South Korea's total export growth rate this year increased amid the declining growth rate of global trade." adding, "If this trend continues, the country is expected to achieve the best performances in trade size, export amount and trade surplus."

However, the problem is that exports and imports might worsen due to the recent state of the global economy. Above all, South Korea's trade performance with the top four trade partners, except the U.S., is slow. Although exports to Japan decreased by -2.2 percent in Oct, they declined sharply by -24.2 percent, or one quarter of total trade amount, in Nov. Trade with China also decreased -3.2 percent, and that of the E.U. has recorded negative growth for 3 months in a row since September.

Imports on capital goods and consumer goods increased, but the decrease in imports of raw materials due to a drop in oil prices resulted in an overall import decline. Consequently, both exports and imports in November decreased for the first time since January this year.

Low Added Export Value

The Hyundai Research Institute announced on Nov. 16 that Korea recorded an export added value outflow of 44.7 percent in 2011, while the average of the United States, Japan, Germany, and China was limited to 23.1 percent during the same period.

This means that Korea paid US$447 to other countries when its exports were US$1,000. The percentages were 18.7 percent for Japan, 19.9 percent for the U.S., 23.3 percent for China, and 30.5 percent for Germany. The pace of the outflow was also faster in Korea. Specifically, Korea's percentage increased from 38.7 percent to 44.7 percent between 2007 and 2011, while the increment was just 2.2 percentage points for the U.S., 2.1 percentage points for Japan, and 0.8 percentage points for Germany. China's dropped from 26.6 percent to 23.3 percent during the period.

The outflow was particularly conspicuous in the chemical and steel industries. Petroleum and coal refining and nuclear fuel production posted a ratio of 88.2 percent, followed by chemical manufacturing (52.5 percent) and steel and metallic mineral manufacturing (47.7 percent).

"This is because the sectors are still relying on the export of universal products while failing to develop their industrial structures," the research institute explained, adding, "In addition, the materials and components sectors have yet to be further developed to be less dependent on the imports of intermediary and capital goods."

In 2011, the ratio of major intermediary goods import to the national GDP was 12.7 percent for Korea, which exceeded each of the four manufacturing leaders. Also, the ratio of the import of capital goods for use in manufacturing activities was 4.0 percent, whereas the percentages were 2.5 percent, 1.3 percent, and 2.2 percent for China, Japan, and the U.S., respectively.

Additional challenges include the persistent technology trade deficit and relatively low labor productivity. Korea's technology export-to-import ratio was 0.41 in 2011 and its manufacturing productivity was US$24.6 per hour in 2009, while the average of the top three was US$62.80.

Shift in Trade Weight to China

The focus of Korea's international trade is also shifting from "export to the U.S. and import from Japan" to "both export and import to and from China." This is likely to become even more conspicuous once the Korea-China FTA takes effect.

According to the Ministry of Trade, Industry and Energy and Statistics Korea, Korea's exports to Japan for the first nine months of this year totaled US$24.44 billion, which was equivalent to 5.7 percent of its total exports for the same period. The percentage is a record low since 1966. During the period, China

A bird's eye view of Busan Port.

and the United States accounted for 24.9 percent (US$106.1 billion) and 12.0 percent (US$51 billion) of Korea's exports, respectively.

Korea's exports to Japan have been on the decline for a while. The ratio had been as high as 36.8 percent in 1973, but dropped all the way down to 9.3 percent in 2002. In addition, the rate of increase has been at negative 2.2 percent, negative 10.7 percent, and negative 4.6 percent in 2012, 2013, and the first three quarters of this year. Korea's imports from Japan decreased by 5.8 percent in 2012, 6.7 percent in 2013, and 11.1 percent between January and September this year, too. This can be attributed to Korea's efforts for FTA-based trade partner diversification for the past 10 years, the recent deterioration of the bilateral diplomatic relations and the current weak yen.

It is the tourism industry that has been affected the most. This year, the number of Japanese tourists visiting Korea declined 14 percent from the previous year to 1.74 million. But that of Koreans visiting Japan showed no meaningful change.

In the meantime, the Korea-China FTA is expected to result in China's increasing role in Korea's international trade relations. The ratio of exports to China had been limited to 3 percent immediately after the establishment of diplomatic relations in 1992, but increased rapidly to 17.7 percent in 2003 to catch up with that of exports to the United States. More recently, the percentage has reached 25.8 percent last year and 24.9 percent this year.

Most Threatened

The Federation of Korean Industries announced on Dec. 8 that Korea has been outstripped by China in the six industrial fields of smartphones, automobiles, shipbuilding and marine engineering, petrochemicals, petroleum refining, and steel.

In the global smartphone market, Korean companies' share was 1.2 percentage points short of their Chinese counterparts' in the second half of this year. Specifically, the nine Chinese handset manufacturers including Huawei, Lenovo, and Xiaomi accounted for 31.3 percent of the market, while Samsung Electronics and LG Electronics posted 30.1 percent combined. Besides, the latter failed to surpass Apple's iPhone in the high-end market.

In the automobile industry, Chinese manufacturers beat Korean companies in output and global market share alike in as early as 2009. In 2003, Korea's manufacturing volume and global market share had been 3.37 million units and 5.4 percent, higher than China's figures at 2.91 million units and 4.7 percent. However, China outnumbered Korea six years later by a margin of approximately 2.43 million cars, and produced 10.97 cars last year to represent 12.5 percent of the global market. In contrast, Korea had to be content with 8.63 million and 9.8 percent.

In the meantime, Chinese shipbuilders and maritime companies have already cast behind their Korean rivals in new order amounts, shipbuilding tonnage, and order backlog.

In the petrochemical sector, Korea and China produced 8.35 million and 18.76 million tons of ethylene last year to take up 5.4 percent and 12.2 percent of the global market, respectively. Chinese oil refining companies increased their capacity-based global market share from 6.6 percent to 13.3 percent between 2003 and 2013. During the same period, Korea's percentage went up by just 0.2 percentage points to 3.0 percent.

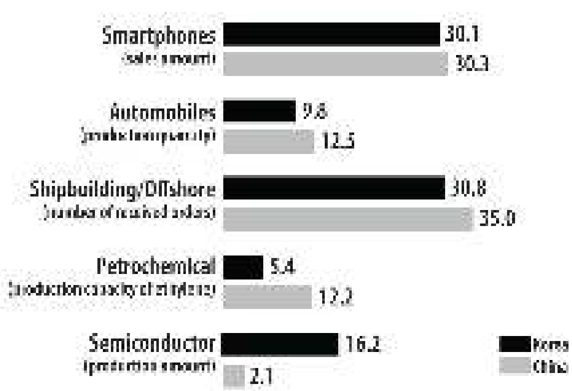
China accounted for 48.5 percent of the global steel market last year as well, more than doubling its share in 10 years, but Korea's share fell from 4.8 percent to 4.1 percent.

In particular, concerns are rising over the impact of the Korea-China FTA in the domestic petrochemical and steel industries. The Korean market for petrochemicals is wide open while Korean companies' export to the Chinese market is blocked. Also, steel imports from China have skyrocketed this year to pose the same concerns on the steel industry.

According to the free trade deal, most chemical products except for ethylene are subject to tariff eliminations in 15 to 20 years. "The petrochemical industry is characterized by product rankings determined by their prices," an industry expert commented, adding, "Korea is likely to have a very hard time against China's protective measures, while Chinese products will be further increasing their price competitiveness."

In the meantime, steel imports from China to Korea were found to have reached 12.283 million tons between January and November this year. The Korea Iron & Steel Association explained in its recent data that the amount increased by 37.5 percent from a year ago. BK

Comparison of Market Shares
by Major Industry between Korea and China



Interview with Policy Maker

Promoting Exports of Domestic Demand-oriented Companies

Won Dong-jin, director general for International Trade Policy at the Ministry of Trade.

Korea is expected to achieve another triple crown in the size of trade, exports, and trade surplus this year, making it two consecutive years.

Won Dong-jin, director general for International Trade Policy at the Ministry of Trade, Industry and Energy, said, “Exports of SMEs are increasing more than those of large firms, but most of them post less than US$1 million in exports.” Won added, “We are actively working to establish measures to encourage domestic demand-oriented companies to become export-centered ones.” Business Korea asked him more on this subject, reprinted below.

SMEs, which were expected to be severely hit by a weak yen, accounted for 33.7 percent of the total exports in September, which is the highest ever. What is the driving force behind this achievement?

Since the inauguration of the Park Geun-hye administration, the government has set a goal to strengthen the competitiveness of SMEs in exports, pushing forward a plan to expand support for those companies through regular trade and investment promotion meetings. The government has also been working to facilitate exports of domestic demand-oriented companies.

These efforts have produced meaningful results. SME exports are steadily on the rise, and their weight is growing. As a result, their export growth rate has surpassed that of large companies for two years in a row. The average export growth rate was 2.9 percent from January to September, with SMEs growing at 5.7 percent and large firms at 1.6 percent.

Currently, 900,000 SMEs are exporters, but more than 80 percent record less than US$1 million in exports a year. So, there is a lot of work to do.

From next year, we are planning to move forward with measures announced in August to promote exports of domestic demand-oriented companies. We are going to cultivate companies with excellent product competitiveness but heavily dependent on domestic demand owing to a variety of difficulties rising in the export process, and support them appropriately.

The country's main industries overlap with those of Japan, and the gap with China in major industries is narrowing. Next-gen industries that the government wants to nurture are also similar to those of the two nations, heating up competition for exports.

A drastic increase in the won resulting from a weak yen and China's challenges are leading to intense competition among Korea, Japan, and China in the global export market.

As a result, the government is working to make exports high-value-added products, strengthen the competitiveness of the local materials and components industry, and diversify export markets using free-trade deals. The government is also providing customized support and encouraging indirect exports through specialized trading companies to expand the exports of SMEs. In addition, the government is trying to come up with a measure following the Manufacturing Industry Innovation 3.0 Strategy to enhance the competitiveness of the manufacturing industry that is the basis for our exports.

The growth of China, the largest exporter and importer of our country, is slowing down. The acceleration of the slowdown would deal a serious blow to our country. What is your outlook and how are you preparing?

Exports to China started to decrease in May of this year, but they are showing an upward trend in September. Thanks to a positive trend in the U.S. economy and a rise in China’s output, our exports to China are also expected to grow.

We are implementing a measure to expand trade with China to prepare against a slowdown in exports there, and to target the Chinese local market, including sectors of consumer goods and end goods. In addition, we are working to establish a measure to implement the Manufacturing Industry Innovation 3.0 Strategy in order to help the local manufacturing sector improve fundamental competitiveness.

To diversify export markets, we are also planning to expand support for local companies' penetration into emerging economies. For that, we are going to create additional trading posts and export incubators, increase logistics networks overseas, expand marketing and trade insurance in emerging markets, and provide support using the Korean wave and corporate social responsibility. BK

Performance & Outlook

Exports from Korea Estimated to Exceed US$600 Billion Next Year

President Park Geun-hye is awarding "I Billion Dollar Prize" to Hansae chairman Kim Dong-Nyung at the ceremony of the 51st Trade Day.

The Institute for International Trade of the Korea International Trade Association (KITA) predicted on Dec. 4 that total exports from Korea will reach US$601 billion next year to show a 4.3 percent year-on-year growth, while imports will increase by 5.5 percent to US$557 billion. The trade volume is also predicted to exceed US$1 trillion for four years in a row and Korea to rank seventh in the world in total exports for five consecutive years.

The institute said in its report that Korea's trade performance for 2014 is characterized by increasing exports from small and medium enterprises with the country's FTAs having a positive effect, sluggish export to China, and dropping export prices. "Next year, both advanced and emerging economies are likely to show better economic conditions, and Korea's economic growth rate and international trade volume growth are expected to be as high as 3.8 percent and 4.0 percent, to contribute to improved trade environments," it added.

By export item, marine vessel exports are estimated to grow 7.4 percent year-on-year, while semiconductor and display panels increase 6.0 percent and 6.9 percent, respectively. In contrast, those of wireless communication devices and petroleum products are forecast to fall 4.6 percent and 2.5 percent each.

The KITA also granted awards to those who particularly contributed to Korea's international trade during the course of this year on Dec. 5, the 51st Trade Day. This year's 822 award winners included Green Cross President Jo Sun-tae, Howon Representative Director Yang Jin-suk, LG Display President Han Sang-bum, Hoonga CEO Kang Shin-young, and GS Caltex Vice Chairman Huh Jin-so.

Samsung Electronics received the unprecedented US$75 Billion Export Tower Award and SK Hynix and Hyundai Mobis were awarded the US$10 Billion Export Tower Award, followed by LG Innotek's US$5 Billion and Hyundai Steels' US$4 Billion Awards. Out of the 1,481 prize-winning companies, 95 recorded exports of US$100 million or higher each in 2014. The awardees commemorated Korea's trade account surplus for the fourth consecutive year and accumulated a trade surplus of US$400 billion since the 2008 global financial crisis.

Annual Trade Volume from 2013 to 2015 (unit: US$)

	2013	2014 (estimate)	2015 (prediction)
Exports	559.6 billion	576.0 billion	601.0 billion
Imports	551.6 billion	528.0 billion	557.0 billion
Trade Balance	44.0 billion	48.0 billion	44.0 billion

Performance Report

Korea's "Doing Business" Metrics Increasing Across the Board

The attractiveness of Korea as country in which to do business has risen to a significant point in 2014, as seen in several metrics and contexts. Most significantly is Korea's rank in "Doing Business 2015: Going Beyond Efficiency," published by the World Bank. Korea ranked 5th this year, outdoing all other G20 countries. Only two other OECD member nations rank higher, as well. The Korea Trade Promotion Corporation, or KOTRA, has broken down Korea's strengths into several categories, from the economy to the location. And the numbers are looking pretty good.

Korea is now the nation with the 14 th largest GDP. On average, each citizen earns US$24,000 a year. The country is also 7th in foreign reserves at US$355.8 billion, 8th in total trade at US$1.08 trillion, and also 7th in total exports at US$559.6 billion. That's the top 10 in 3 major categories, according to Korea's Ministry of Trade, Industry and Energy.

Part of the reason for Korea's excellent economic indicators is its location. It is at the heart of Northeast Asia, in between Japan and China, the world's 2nd and 3rd largest economies. Within just 1,000 km are 75 of the largest cities in the world with 207.7 million people. Stretch the bubble out to 3,000 km and you cover 167 of the world's largest cities and 440.4 million people.

And Korea is making it easier to trade with all those people with its quickly-growing network of Free Trade Agreements (FTAs). As of this year, Korea has FTAs with 36 percent of the world's population and access to 62 percent of the global GDP. These agreements also include both the European Union and the United States, making Korea the only Asian nation to have free access to both markets simultaneously.

For two generations now, the Korean people have been living by the mantra that their greatest asset is their human resources. This guiding principle has resulted in a country with the highest college graduation rate in the OECD at 65 percent, according to a study by the OECD titled "Education at a Glance 2013." This is greater than Japan's 60 percent, and also greater than Canada, Russia, and Ireland at 57 percent, 56 percent, or 48 percent.

But this college-educated workforce has another thing going for them – they are statistically dedicated to their jobs. The job turnover rate in Korea is dropping, and was 4.2 percent in 2013, according to government labor statistics. This is in contrast to China, with a 14.3 percent job turnover rate, and Hong Kong, which has a 20.1 percent turnover rate, both in 2013 as well.

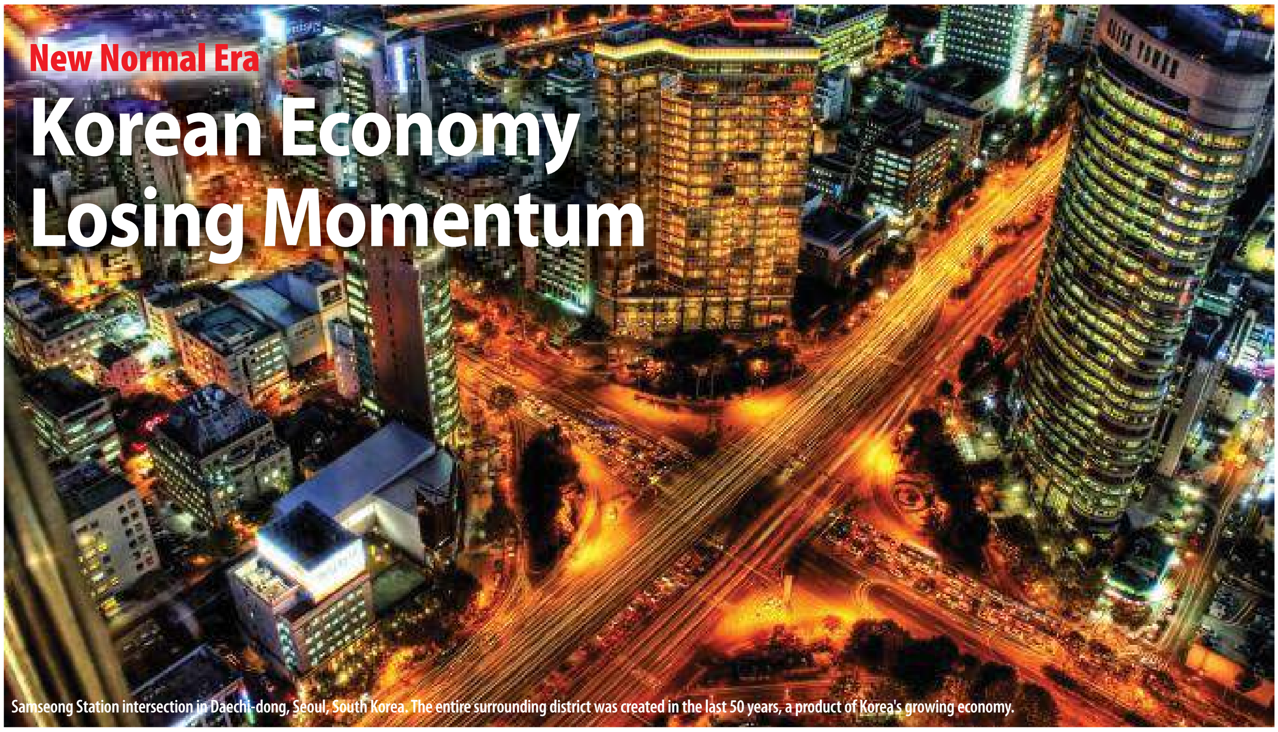
This educated, dedicated workforce also has the money to spend on global companies. Korea calls itself a member of the "20-50 Club," nations with a per-capital GDP exceeding US$20,000 per year and a population of 50 million or more. This creates strong purchasing power, and many companies consider the Korean market to be a key test bed for a successful brand.

The population is wired, too. Korea's ICT Development Index ranking from the International Telecommunication Union in 2013 is first, at 8.57. The index of the next-highest country, Sweden, is 8.45. Korea has worked hard to improve its core telecommunications infrastructure, believing them to be the foundation of modern society. This means that any IT-related technology or service can see rapid growth in the country, literally and physically faster than anywhere else.

According to the Bloomberg Global Innovation Index published in January of this year, Korea is the most innovative country in the world. In an evaluation of patent activity, manufacturing capability, high-tech density, tertiary efficiency, and R&D intensity, Korea ranked first with a score of 92.10, beating Sweden by 1.30 points. BK

New Normal Era

Korean Economy Losing Momentum



Samseong Station intersection in Daechi-dong, Seoul, South Korea. The entire surrounding district was created in the last 50 years, a product of Korea's growing economy.

The Korean economy is entering a so-called new normal state characterized by low growth, low consumption, and low unemployment. Unfortunately this will inflict increasing financial pain on corporations and households alike. The current composite consumer sentiment index (CCSI) is even worse than immediately after the Sewol Ferry sinking, and most people are also negative about the outlook for the next six months. Companies, failing to find an attractive investment destination, are refraining from taking out loans for investment even after the interest rate cut as of late.

The economic stimulus package of Deputy Prime Minister Choi Kyung-hwan and the recent key rate cut by the Bank of Korea are not working as desired amid concerns over deflation. Under the circumstances, the leadership of the Deputy Prime Minister is being put to test.

According to the central bank, Korea recorded a current account surplus of US$9 billion in October to remain in the black for 32 consecutive months. Still, experts point out that such a feat will not be found for the time being without a major industrial structural innovation.

The monthly exports decreased by 8.7 percent from a year ago in October, due mainly to the decreasing sustainability of the processing trade relying on China that is witnessed in the semiconductor, display panel, and clothes manufacturing sectors. Besides, shipments and added value are declining in the mining, petrochemical, and manufacturing sectors.

Corporations are reluctant to make investments, too. The industrial loan increment, which amounted to over 16 trillion won (US$14.5 billion) in each of the first and second quarters of this year, fell to 11.5 trillion won (US$10.4 billion) in the third.

Consumers' sentiment hit a 14 month low as well. The CCSI, which reached 107 in August and September, is now at 105. In the meantime, the number of individual rehabilitation requests amounted to 93,105 between January and October, and is expected to break last year's record at 105,885 at the end of this year.

The total household liabilities increased by 22 trillion won (US$19.9 billion) to 1.060 quadrillion won (US$959 billion) between the second and third quarters. The amount is estimated to break the 1.1 quadrillion won mark at the turn of the year, given the central bank's key rate cut in October.

in the meantime, the Federation of Korean Industries recently carried out a survey with 38 economists, and announced on Nov. 25 that 44.7 percent of them picked secular stagnation, or structural long-term recession, as the keyword of the Korean economy next year. Secular stagnation can be defined as the continuation of a lack of demand and low growth, with investment reaching the limit.

Twenty-eight point nine percent of the respondents selected new normal, which means low growth, low interest, and low consumption being new standards in the wake of the global financial crisis. Ten point five percent chose the three-low phenomenon, that is, the simultaneous occurrence of low growth, low prices, and a weak yen. Seven point nine percent picked Japanization in which deflation, unemployment, and national debt increases take place at the same time.

Approximately 60 percent of the experts predicted that the Korean economy would show a U-shaped recovery for five years to come, while the others mentioned an L-shaped or W-shaped double dip. This implies that the Korean economy is less likely to show the resiliency witnessed in the past.

750 Trillion Won

Korean Investors Have Lost Their Way

The public subscriptions prior to the initial public offering of Samsung SDS that finished on Nov. 6 attracted 15.5 trillion won (US$14.2 billion) from individual investors with a competition of 134.9:1, as well as approximately 450 trillion won (US$411 billion) from institutional investors. On its first day, the opening quote was 380,000 won (US$341), double the public offering price, and foreign and institutional investors have kept buying the stocks since then in the interest of their index fund return. Such a smash hit, however, shows that investors are having difficulty finding reliable investment destinations these days.

The Korean stock market, which showed some signs of a boom during this past summer on expectations of economic revitalization after the inauguration of Deputy Prime Minister and Minister of Strategy and Finance Choi Kyung-hwan, has stagnated again since mid-October. The key rate has been successively cut, major companies such as Samsung Electronics and the Hyundai Motor Group have released negative earnings records, and the depreciation of the Japanese yen has dragged down the index.

Under the circumstances, the money market fund (MMF) balance, which is a typical example of short-term floating funds, exceeded 100 trillion won (US$91.4 billion) for the first time in 62 months. As of Nov. 4, the amount totaled 100.9689 trillion won (US$92.27548 billion), the highest level since August 2009. The total short-term floating funds including cash, demand deposits, savings deposits, and cash management accounts (CMAs) is said to have broken the 750 trillion won (US$685 billion) mark to set a new high, too. "Investors are focusing only on safe assets, as the termination of quantitative easing by the Fed is poised to affect the Korean economy and stock market alike," the Korea Financial Investment Association explained, adding, "Net inflow into the MMF amounted for 10 trillion won [US$9.2 billion] in October alone."

According to a recent survey, those with at least 1 billion won (US$914,240) in financial assets have 47.9 percent of their assets in the form of cash and savings. The percentages were 13.5 percent for stocks and 11.5 percent for fund products.

The floating funds are flowing to equity-linked securities (ELS) and those providing dividends. This year, the total ELS issue topped 50 trillion won (US$45.8 billion) for the first time in history. According to the Korea Securities Depository, the ELS issue increased by almost 10 trillion won (US$9.1 billion) from a year earlier to 53.6101 trillion won (US$49.0800 billion) as of Nov. 5. It amounted to close to 7 trillion won (US$6.4 billion) in October this year alone. The dividend funds are swelling as well. No less than 2.5161 trillion won (US$2.3035 billion) flowed this year, whereas equity funds lost 3.4771 trillion won (US$3.1789 billion) during the period.

"The recent trend reflects that investors are failing to find attractive investment destinations," said Samsung Securities analyst Kim Hong-bae, continuing, "They are just staying for a moment in the low-risk low-yield products. The popularity of ELS and dividend funds as of late has little to do with speculation." A local private banker echoed the sentiment by saying, "The concentration of floating funds on such products is unlikely to result in stock market revitalization. Investors now seem to be waiting until any positive stock price, exchange rate or macroeconomic sign comes out." BK

Big Hands

Chinese Banks Growing Prevalent in Korean Financial Market

Chinese banks are growing at a very rapid pace in the Korean financial market. The five major Chinese banks – the Bank of China, China Construction Bank, Industrial and Commercial Bank of China, Bank of Communications, and Agricultural Bank of China – are attracting more and more yuan-denominated deposits comparable to provincial banks in asset size.

The assets of their branches in Korea increased by 88 percent last year and are expected to increase by more than 100 percent this year. The annual growth rate had been 20 to 30 percent since the mid-2000s.

The rapid growth is contrary to the stagnation of American and European bank branches at the same time.

Chinese banks' dominance is likely to be further solidified with the Korea-China FTA having been signed and the won-yuan direct trading market having been opened. The financial authorities are monitoring the possibility of money laundering with investors rushing to yuan-denominated deposits and the like having a hard time finding attractive investment destinations.

American, European Banks being Driven Out of Market

American and European banks made huge profits in Korea directly after the global financial crisis in 2008. At that time, the U.S. reduced its interest rate. The branches could apply a lower procurement interest rate, while Korea had to borrow money at higher rates due to the drop in credit rating and the lack of liquidity. Profits from foreign exchange products and derivatives skyrocketed amid capital outflow, and the foreign branches recorded a current net income of 2.4 trillion won (US$2.14 billion) in 2009 alone.

However, their performance soon plummeted and their net income dropped to 900 billion won (US$802 million) or so last year as market volatility decreased and the low interest trend set in. Competition in the foreign exchange and derivatives markets has intensified as well. Some Western banks are mulling over completely ending their business in Korea these days.

Chinese Banks Taking Their Place

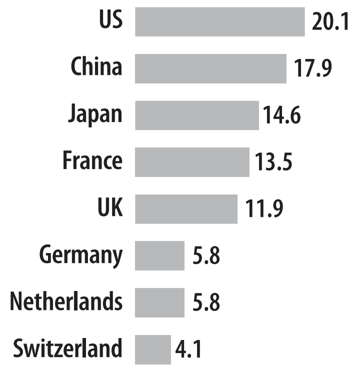
Meanwhile, branches of Chinese banks increased their assets from 14.38 trillion won (US$12.83 billion) to 27 trillion won (US$24 billion) between 2012 and 2013. The amount is estimated to reach 55 trillion won (US$49 billion) at the end of this year, which is comparable to the total assets of Citibank.

Such explosive growth can be attributed to the continuation of the low interest rate and the rapid growth of the yuan-denominated deposits resulting from it.

Chinese banks procure low-interest funds in Korea and provide money for Chinese people at high lending rates so as to circumvent the Chinese government's strict loan-deposit ratio regulations. "The interest rate gap is approximately three percentage points, which makes it very easy for us to take profits, and Korean securities companies' successive issuing of asset-backed commercial papers based on yuan deposits have acted positively for our business," said an employee at a Chinese bank branch in Seoul. BK

Asset Weight of Foreign Banks in Korea by Country

(Unit: %)



As of the end of September
Source: Bankers Asso ciation and Public Notices of Management by Foreign Bank Branches

Low Corporate Profitability

Companies Earned Only 39 out of 1,000 Won as Profits Last Year

The I-Park building in the Samseong area of Seoul, at night.

Last year, the net profits of domestic companies dropped to the lowest level since the financial crisis in 2008. The rate of sales increases has slowed rapidly after 2010. Corporate business performance has worsened as well, as the economy is entering a depression.

According to the "2013 Provisional Results of Investigation on Company Activities" released by Statistics Korea on Nov. 25, the average net profit of domestic companies (except financial and insurance companies), which is the profits before deducting corporate taxes, was 39.2 won (US$0.0354) per 1,000 won (US$0.90), down by 8.0 won (US$0.0072) from a year earlier. This is the lowest price since the global financial crisis in 2008 (32.5 won, or US$0.0293).

The net profit per 1,000 sales won was 63.0 won (US$0.0569) in 2006 when Statistics Korea began investigating companies' activities, 69.2 won (US$0.0623) in 2007, and down to 32.5 won (US$0.0292) in 2008.

After that, it increased to 53.3 won (US$0.0481) in 2009 and 62.3 won (US$0.0563) in 2010. It, however, decreased again with 51.7 won (US$0.0467) in 2011, 47.2 won (US$0.0426) in 2012, and 39.2 won (US$0.0354) last year.

Last year's total sales of companies amounted to 2.257 quadrillion won (US$2.039 trillion), up 1.1 percent from last year. The sales increase rate rose sharply to 16.3 percent in 2010 from 0.6 percent in 2009, but it dropped by 12.2 percent in 2011, by 6.0 percent in 2012, and sharply down by 1.1 percent last year.

The investigated companies are those with more than 50 regular employees and capital of at least 300 million won (US$271,065) among 460,000 domestic companies. A total of 12,232 companies were investigated.

Total employees increased by 89,000 from 4.22 million last year. While the percentage of regular employees decreased by 0.3 percent from last year with 88.1 percent (3.72 million people), temporary and other employees increased by 0.3 percent, recording 11.9 percent (504,000 people).

The number of companies (except financial and insurance companies) that are conducting R&D activities are 5,998, which decreased by 0.5 percent compared to last year, and expenses for R&D increased to 42.7 trillion won (US$38.6 billion), up 12.9 percent from last year. Among those, the expenses for the manufacturing industry increased by 12.6 percent from last year, recording 37.3 trillion won (US$33.7 billion). The average sales of companies that continuously invested in research and development recorded 531.7 billion won (US$479 million) per company for the last 8 years, which was 2.8 times the average. BK

Decline to 1/5th

Samsung Electronics' Presence in KOSPI Waning

The ratio of Samsung Electronics' operating profits to the combined profits of the companies listed on the Korea Composite Stock Price Index (KOSPI) has dipped below 20 percent.

According to the Korea Exchange (KRX) and the Korea Listed Companies Association, Samsung Electronics recorded 4.1 trillion won (US$3.7 billion) in operating profits in the third quarter of this year on a consolidated basis, which is equivalent to 19.1 percent of the total profits of the 488 surveyed companies. The percentage had been as high as 35.7 percent a year ago, and 31.3 percent in the previous quarter.

During the same period, Samsung Electronics' sales were 47.4 trillion won (US$42.5 billion), to account for 10.7 percent of the listed companies' combined sales, while the ratio had been 13.1 percent in the third quarter of 2013 and 11.6 percent in the second quarter of 2014. The net profit ratio was 30.2 percent – 4.2 trillion won (US$3.8 billion) vs. 14 trillion won (US$12.5 billion) – dropping by 9.1 percentage points and 5.1 percentage points from the same respective periods.

This year, Samsung Electronics' quarterly business profits dropped from approximately 8 trillion won (US$7.1 billion) to 7 trillion won (US$6.3 billion) and then to 4.0605 trillion won (US$3.6365 billion). This is the first time since the last quarter of 2011 that its quarterly business profits failed to reach 5 trillion won.

Under the circumstances, Samsung Electronics' market cap ratio showed a significant decline as well. As of the end of the third quarter, its aggregate market value totaled 174.4024 trillion won (US$156.1983 billion), 14.47 percent of the KOSPI. The figures had been 201.3582 trillion won (US$180.3404 billion) and 17.24 percent a year ago. BK

Stock Price Stabilization Samsung Electronics to Buy Back Shares

Samsung Electronics will repurchase treasury stocks worth approximately two trillion won, a record high in its history, in order to stabilize its stock price and promote shareholder value.

The company announced on Nov. 26 that it would reacquire 1.65 million common treasury shares and 250,000 non-common treasury shares at a cost of 1.9635 trillion won (US$1.7818 billion) and 229.75 billion won (US$208.49 million), respectively. The trading is expected to be carried out between November 27 and February 26, 2015.

This year, Samsung Electronics lost about 20 percent in stock price, falling to around 1.2 million won (US$1090) per share due to sluggish smartphone sales, and shareholders have demanded treasury stock purchases with a higher dividend payout ratio, which was 7.23 percent at the end of 2013.

In the meantime, the company bought 11.5 million shares of Cheil Worldwide through off-hours block trading on Nov. 26. The per-share and total acquisition costs were 19,200 won (US$17.44) and 220.8 billion won (US$200.6 million), respectively. Its shareholding ratio in Cheil Worldwide rose to 12.6 percent, so it has become the second-largest shareholder. BK

Private Equity

Private Equity's Second Act: Challenges and Opportunities

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The author F. Scott Fitzgerald once famously remarked that "there are no second acts in (American) life." Korean investors are hoping that a second act is available for private equity (PE), the much-maligned and often misunderstood alternative investment class that has generated scorn, controversy and revulsion from the Korean public since its public introduction in 2004. Despite PE's generally impressive track record, Korean public discontent with the alleged missteps and misconduct associated with Lone Star Funds' acquisition of a controlling interest in Korea Exchange Bank has continued to linger. In order to dispel myths and gain a more impartial perspective on PE's proper role in Korea, a review of PE's structure, purpose, and public benefits is vital.

PE has many sub-classes, including leveraged buyouts, growth capital and venture capital, though the last of these is generally thought of as a distinct asset class of its own. By pooling capital provided by a variety of limited partners -- generally, pension funds, sovereign wealth funds, high net worth individuals and other accredited investors -- in the form of a limited partnership, the general partner of a PE fund is then empowered to do many things. The partner can invest the fund capital in private and sometimes public companies at various stages of growth or maturity, restructure the target company's balance sheets, or make operational improvements and sell the target company to another PE fund (called a secondary buyout), a strategic competitor in the industry, or the general public in the form of an initial public offering (IPO). In addition to potentially realizing returns on its investment from the sale or listing of their portfolio companies, the general partner of a PE fund typically collects management fees (often 1.5 to 2 percent of total assets under management) and performance fees (typically 20 percent of the total returns on investment). Given this fee structure and the multiple sources of positive returns, it is unsurprising that general partners of these funds have often done extraordinarily well.

While the fabulous wealth attained by general partners in managing PE funds has generated popular outcry worldwide, the accompanying benefits to companies, employees, and smaller investors have often escaped notice. Many of the world's largest and most successful companies have, at one point or another, tapped into the flow of financial, advisory, and relationship capital provided by PE, enabling them to access funds for product development, marketing, manpower, and R&D that would have been otherwise unattainable from banks or public equity investors. Without this infusion of private capital, many of these promising companies may have faced insolvency or closure. Experienced PE managers can also connect companies with valuable customers or business partners, leveraging networks from prior investments or their existing investments in other portfolio companies. If the Park administration is sincere in its commitment to the development of a Korean "creative economy" spearheaded by promising small to medium-sized enterprises, the consideration of PE and other forms of alternative investment to fund the growth required of Korean SMEs and the emerging entre-


The heart of the Gangnam district of Seoul. (Photo by Leeyan Kym N. Fontano via Wikimedia Commons)

preneurial class may make a great deal of strategic sense. Family-owned businesses facing succession issues may also find the experience, skills, and resources of top PE firms attractive when they are seeking to exit their businesses.

But PE is not always sunshine and lollipops. While empirical data suggests that the returns provided to investors in top-performing PE funds more than justify the hefty management and performance fees, grave danger abounds for those who choose poorly managed funds. According to a recent study by BlackRock, the asset management firm, the best PE managers produced significantly higher investment returns than their peers in traditional investment classes (like fixed income, equity, and real estate) did, but the bottom PE managers consistently underperformed comparable managers in these other investment classes. During the decade from 2002-2012, the top 10 percent of global PE managers generated a whopping 31.0 percent median return, about 23 percent higher than the 8 percent returns generated by a top 10 percent equity fund manager, and more than 27 percent higher than a comparably-ranked bond fund manager. Conversely, the bottom 25 percent of managers suffered median losses of 11.8 percent, significantly higher than the losses produced by low-performing managers in other investment classes. This broad dispersion of returns underscores PE's challenges and opportunities.

Despite the risks, PE can offer an opportunity for those with an appetite for risk. Contrary to public belief, many of the LPs invested in PE funds are not the fabulously wealthy, but rather ordinary retirees and government workers who participate indirectly via public and private pension funds. For a country facing the economic growth and demographic challenges of Korea, the impressive returns generated by top PE funds present a compelling opportunity for qualified investors, particularly as the outlook for Korean real estate -- the preferred investment vehicle for Koreans in the postwar period -- and bond funds continues to darken amidst a deflationary environment. However, because of the risk of large losses, PE should only be undertaken by skilled and experienced managers who can properly evaluate, manage, and exit selected investments. Korean regulators can support the investment process and instill public confidence by tightly regulating PE funds and requiring regular outside audits and full disclosure. It is both likely and appropriate that Korean regulators will closely scrutinize the formation and investment structure of PE funds to a degree not often seen in the West.

Recent activity of the PEs in Korea indicates that the industry will continue to grow. A number of large, globally-prominent funds continue to make Korean investment a high priority. There are also many strong and reputable domestic PE funds that are very active in Korea, both in raising funds from LPs and in sourcing and executing successful deals. Provided that eligible Korean investors and companies demonstrate a mature understanding of the industry and undertake a thoughtful appraisal of the risks, all participants can benefit from PE as an important source of growth capital.

Chairman's First Move

Hanhwa Group Chairman Visits Iraq Site as First Move after Comeback

Chairman Kim (left) is overseeing the PC plant of the Bismayah new city site.

Hanwha Group Chairman Kim Seung-youn chose a visit to an overseas construction site for his first official move after his comeback to management.

From Dec. 7 to 9, Chairman Kim looked around the new city site of Bismayah, Iraq, the construction order of which Hanwha Engineering and Construction (E&C) obtained, encouraging its executives, staff and subcontractors. Chairman Kim visited Iraq two years and 5 months after his first courtesy visit in July 2012 to to Iraqi Prime Minister Nouri al-Maliki to discuss additional orders for the restoration project of postwar Iraq.

Chairman Kim had a meeting with Sami Al Araji, chairman of the Iraq National Invest Commission (NIC), and discussed additional business investments.

Chairman Kim visited the staff cafeteria of Hanwha E&C at the site without giving notice on Dec. 8 (local time) and had lunch together with the staff. For dinner, he tried to improve the morale of executives and staff including foreign workers of the company and subcontracting workers by inviting them to eat flatfish sushi shipped from Korea at a banquet.

Chairman Kim praised the workers during dinner by saying, "Many things have really changed. There was nothing here when I first came," adding, "I give applause for the hard work of the executives and staff members of Hanwha E&C and its subcontractors who are continuing the great challenge of Korean builders in this far away foreign country."

In particular, Chairman Kim shared his thoughts about its recent acquision of the four affiliate companies of Samsung Group, including Samsung Techwin and Samsung General Chemicals.

He said, "Our group recently accomplished an innovative company M&A and provided the foundation for a great leap," adding, "Let's go for the goal of world's top company, with new members of Samsung, in major business areas such as the defense and petrochemical industries."

The Bismayah Project, which is the largest among the single overseas construction projects given to domestic construction companies, is to build a new city for 100,000 families at the site of 18.3 million m2. The total construction value amounts to US$8 billion. Currently 7,450 people are working at the Bismayah construction site including 340 people from Hanwha E&C, 304 from its subcontractors, and 6,800 foreign workers.

Meanwhile, Hanwha Group announced it will merge Hanwha Solar One and Hanwha Q Cells, both of which are the subsidiaries of Hanwha Chemical, to reshape its photovoltaic power generation business. According to the plan, Hanwha Solar One is to fully own Hanwha Q Cells through new stock issuance.

Once the process is completed, the merged corporation will become the world's number one photovoltaic cell supplier with a manufacturing capacity of 3.28 GW. The new company is also expected to be able to diversify its manufacturing bases to Malaysia, Germany, China, and many more, while supplying products of the best quality based on Germany's technological strength in the sector.

Hanwha Solar One, acquired by the Hanwha Group in August 2010, is a NASDAQ-listed company. Its main office is in Shanghai, and it is running 800 MW ingot and wafer manufacturing lines, 1.75 GW cell production lines, and 2.3 GW module production lines in China. Its 230 MW module manufacturing lines are to be built in Eumseong, North Chungcheong Province, before May 2015, too. Hanwha Q Cells was acquired by the group two years ago. The headquarters and R&D center are in Thalheim, Germany. It has 1.53 GW cell manufacturing lines in Germany and Malaysia, and is working on 1.1 GW module production lines in the Malaysian plant for commercial operation from 2016.

Turning Away

Hyundai Motor Company Increasingly Shunned by Foreign Investors


Chung Mong-koo, chairman of Hyundai Motors.

According to the Korea Exchange, foreign investors owned 44.37 percent of Hyundai Motor Company as of Nov. 6, which is a four-month low.

The shareholding ratio of foreign shareholders in the automaker had remained over 45 percent in August but began to decline on Sept. 18, when the company purchased the Korea Electric Power Corporation (KEPCO) building in Seoul for 10.6 trillion won (US$9.77 billion). The price was assessed to be more than three times the appraised value.

Since that day, foreign investors have sold approximately 500 billion won (US$461 million) worth shares of Hyundai Motor Company. The shareholding ratio dipped below 45 percent on Oct. 2. The stock price has decreased by over 20 percent since the announcement of the purchase, and the aggregate market value has dropped by 8.7 trillion won (US$8.0 billion) during the same period.

The company said that it would increase the dividend amount at the earnings announcement last month. On Nov. 7, Kyobo Securities predicted its cash dividends at the end of this year at 1,950 won (US$1.80) per share.

Contingency Actions

The Hyundai Motor Group is planning to buy its own stocks in quantity with its stock price plummeting due to the weak yen and its purchase of the Korea Electric Power Corporation (KEPCO) building located in Samsung-dong, Seoul.

Hyundai Motor Company announced on Nov. 11 that it buys 1 percent of the total Hyundai Motor Company shares on the stock exchange. Specifically, the 2,202,764 common shares and 652,019 preferred shares are worth 449 billion won (US$409.9 million). Kia Motors is going to buy 4,053,633 common shares at an investment of 220.9 billion won (US$201.5 million), too.

Hyundai Motor Company's treasury stock purchase of such a scale is for the first time since April 2005. At that time, it bought 11 million common shares and one million preferred shares at 660.2 billion won (US$602.6 million), in the wake of the appreciation of the won against the U.S. dollar that significantly deteriorated its business performance.

On Nov. 11, Hyundai Motor Company's stock price soared in the news. Its aggregate market value increased by 2 trillion won (US$1.8 billion) on that day alone.

Chairman Accused

Meanwhile, Chung Mong-koo, chairman of Hyundai Motors, was accused by a minority shareholder in relation with the controversial purchase of the Korean Electric Power Corporation (KEPCO) headquarters in Gangnam at a high price.

The prosecution office said on Nov. 20 that the case was allocated to the Seoul Central Prosecutors' Office. The source argued that Jung caused damage to Hyundai Motors by exerting undue influence during the process of purchasing the KEPCO land in Seoul at a price higher than market value.

The Hyundai Motor Group purchased the KEPCO land for 10.55 trillion won (US$9.475 billion), much higher than its appraised market value of only about 3.3 trillion won (US$2.9 billion).

Earlier last month, the Economic Reform Solidarity said, "After reviewing the records of board of directors meetings of Hyundai Motors, Kia Motors, and Hyundai Mobis, it was found that Chairman Jung didn't attend the board meeting for determining whether to participate in the bid of KEPCO land," so the civil organization delayed legal action.

Meanwhile, all Hyundai Motor Group stocks dropped on the same day. At 10:50 a.m. on Nov. 20, Hyundai Motors was traded at 166,000 won (US$149.07), decreasing by 3.21 percent compared to the previous day. Kia Motors dropped by 2.30 percent and Hyundai Mobis dropped by 2.47 percent. BK

No Visible Changes

Samsung Group Limits Scale of Personnel Transfer for Stability

Samsung Electronics Vice Chairman Lee Jae-yong opted for stability instead of radical change in his first personnel transfer. It seems that he took the safe path, with Samsung Group Chairman Lee Kun-hee in the hospital for over six months.

On Dec. 1, the Samsung Group promoted three of its executive members to president and one to vice president while assigning new jobs for seven others. At this time, the scale of the transfer was the smallest in six years. This is in contrast to last year, where sixteen executives were transferred, including eight new presidents.

Device Solutions Division Vice Chairman Kwon Oh-hyun, IT and Mobile Division President Shin Jong-kyun, and Consumer Electronics Division President Yoon Bu-keun maintained their positions, although the second had been predicted to be replaced due to the poor performance of his business unit. Still, the division's strategic marketing office head Lee Don-ju, global operations head Kim Jae-kwon, and mobile phone development President Lee Chul-hwan were relieved because of the poor performance of the Mobile Communications Business.

Samsung SDI President and Energy Solution Division head Park Sang-jin was appointed as the president of public relations of Samsung Electronics, and Samsung SDI President and Materials Division head Jo Nam-sung became the sole representative director and president of Samsung SDI.

Samsung Asset Management representative director and President Yoon Yong-am was moved to the same position at Samsung Securities, while Samsung Securities Representative Director and President Kim Suk was relocated to be the president of the Samsung Social Contribution Committee. BK

Replacing Management

Component Manufacturing Subsidiaries to Have New Leaders

Both of the heads of Samsung Electro-Mechanics and Samsung SDI have been dismissed for their less-than-expected performance. Under the circumstances, the companies are likely to be subject to more intense restructuring next year to reduce their reliance on Samsung Electronics.

On Dec. 1, the Samsung Group promoted Lee Yoon-tae, vice president of LCD development at Samsung Display, as the new representative director of Samsung Electro-Mechanics, and appointed Samsung SDI Materials Division President Jo Nam-sung as the sole representative director of Samsung SDI.

Experts said that this is a typical result of the Samsung Group's merit-based personnel management system. Samsung Electro-Mechanics recorded 1.7217 trillion won (US$1.5471 billion) in sales and 69.1 billion won (US$62.1 million) in operating losses in the third quarter of this year. Samsung SDI, during the same period, had to be content with profits of 26.2 billion won (US$23.5 million) due to the sluggish sales of its small smartphone batteries.

Samsung Electro-Mechanics' slump can be attributed to Samsung Electronics' in the global smartphone market, in that approximately half of the former's sales are from the latter. Also, Samsung SDI lost its competitive edge in the lithium-ion secondary battery market. It was defeated by the competition in the medium and large battery market for automobiles and energy storage systems, while its share fell in the small battery segment.

In the meantime, Samsung Display President Park Dong-gun held his position despite the company's stagnation. "It seems that this is because he was appointed just a year ago, and his company remained in the black anyway in spite of the poor AMOLED sales," said an industry insider. BK

Empty Promises

Global IT Giants Break Promises to Build R&D Centers in Korea

For many years, global IT companies like Intel, IBM, Ericsson, and Google haven't kept their promises to establish and run research and development (R&D) centers in Korea. Hence, there is growing criticism that foreign companies only make empty promises.

According to industry sources on Nov. 13, most foreign firms have failed to fulfill their promises to set up R&D centers and make investments in the country. Even if R&D centers were created, they did not play a significant role, ultimately leading to shutdowns after only a few years. Or, they have been merely used as a place to test products.

Moreover, Huawei's recent announcement to set up an R&D center in the nation has raised suspicions once again. “We are working to establish an R&D center in Korea,” said Kevin Ho, president of Huawei's handset product line at a press conference. He added, “We have assets, hardware, and software, but we haven't decided about the location of the center, or the scale of our workforce.”

Industry analysts are saying that Huawei's announcement can be interpreted as a conciliatory gesture to the Korean government to target the local market, following its recent entry. In the end, the announcement turned out to be merely a possibility that the Chinese Android device maker will consider building an R&D center with the Korean government's support.

Huawei's move can be ascribed to the fact that the government has always provided support for global IT companies to set up R&D centers in the country. However, those facilities have rarely been successful.

In 2004, the Ministry of Information and Communication succeeded in encouraging Intel to build an R&D center near Seoul for the first time, which generated growing anticipation that it will increase the level of the local IT industry. Nonetheless, the server giant closed the facility in 2007, as part of corporate restructuring stemming from the global financial crisis.

As a result, the home network project between Intel's R&D center and the Electronics and Telecommunications Research Institute suffered a major setback after its start in 2004. The same is true with IBM. IBM Korea opened the IBM Ubiquitous Computing Laboratory, but it merged with other organizations.

There is also increasing criticism of Google, which created an R&D center in 2007 with a promise by the Korean government to provide full support. Google Korea was funded by the government to dispatch its workforce to its headquarters, which did not produce results. Ericsson, on the other hand, promised to make a 1 trillion won (US$909 million) investment and establish an R&D center during President Lee Myung-bak's visit to Sweden in 2009. But the company later said that they did not finalize their investment plan. After all, the Swedish company hasn't made any kind of investment in the country.

Shrinking, Changing Market

Domestic Smart Device Market Size Likely to Shrink amid More Intense Competition

Low-priced Chinese smartphones are mushrooming due to the Terminal Distribution Structure Improvement Act.

Market research firm IDC Korea announced on Dec. 4 that this year's domestic supply and sales of smart connected devices, including smartphones, tablet PCs and non-tablet PCs, are estimated to reach 23.95 million units and 16.836 trillion won (US$15.135 billion), a decrease of 15.5 percent and 23.8 percent from a year earlier, respectively. "In contrast, the global supply is likely to show 17.8 percent year-on-year growth owing to the high demand for smartphones and tablet PCs in developing countries," it added.

It mentioned a decline in smartphone supply as the main culprit of the negative growth of the domestic market. The smartphone segment used to account for 80 percent of the overall smart device market, but the domestic supply is forecast to drop by 20.5 percent to 17.54 million units and the sales by 29.2 percent to 12.345 trillion won (US$11.098 billion) this year.

"The smartphone market has already reached a saturation point, and the market downturn has been accelerated by the recent suspension of the business of mobile carriers, the Terminal Distribution Structure Improvement Act and the crisis of Pantech," IDC Korea explained.

Non-tablet PC demand is on the decline as well, with more and more people using their smartphones and tablet PCs instead of conventional PCs. The segment, which is equivalent to 21 percent of the entire market, is predicted to record a supply of 4.91 million units and sales of 3.725 trillion won (US$3.348 billion) this year, 3.3 percent and 7.1 percent down from a year ago. Meanwhile, the tablet PC market is expected to grow 27.1 percent in supply to 1.5 million units and 15 percent in sales to 765 billion won (US$688 million).

Next year, the competition between smart device makers is expected to be more intense, with mid-range and low-cost smartphones accounting for more than 50 percent of the global smartphone market. In addition, the country is likely to face growing threats from the Chinese ICT industry.

Next year will be a turning point in a paradigm of ICT competition, according to a report on 10 major issues in the ICT sector in 2015 issued by the KT Economics & Management Research Center on Dec. 3.

The research center predicted that mid to low-range phones would emerge as the mainstream in 2015, along with premium smartphones. Market research firm Strategy Analytics also said that the weight of mid-range and low-cost phones will increase from 20.4 percent in 2011 to as much as 55 percent next year.

The institute stressed that Korea should keep a close eye on Chinese IT companies, which are growing fast thanks to huge local demand. Since their influence is going beyond low-cost smartphones and expanding to UHD TVs and wearable devices, they are likely to threaten the Korean ICT sector further.

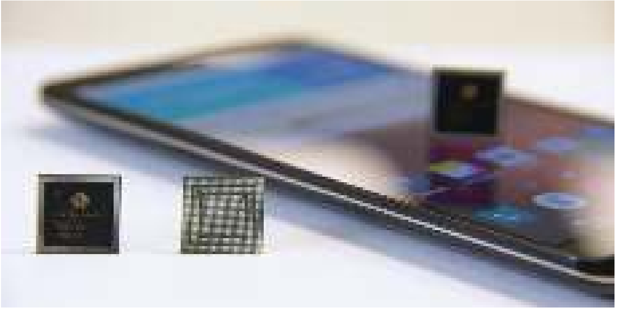
With smart devices becoming more popular, smart media based on the mobile platform is expected to flourish in 2015. In new convergence industries, global ICT companies are expected to compete for new platforms in the mobile health care area. Competition to dominate platforms in the Internet of Things sector is also going to kick into high gear next year. In the meantime, the smart home market is forecast to be reorganized from one centered on big suppliers to that centered on the supplies of low-cost terminals.

Undercooked Tech

LG G3 Screen Considered Lower Quality than Chinese Entry Phones at 2.5x Price

The G3 Screen with LG Electronics' own application processor (AP) is suffering from sluggish sales, as it is widely acknowledged to deliver low performance for its price. The new handset is even inferior to the X3 with Huawei's own AP, but the launch price of the G3 Screen is 2.5 times higher.

According to industry sources on Dec. 1, there is growing controversy over low performance of the G3 Screen in online communities for smartphones. A source in the industry said, “LG has never designed its own AP before, but this is too much,” adding, “Chinese entry-level APs are one generation ahead of LG's AP."”



The LG G3 Screen is the first to use LG's own application processor, the NUCLUN.

It has been more than a month since the new model was introduced to the market on Oct. 24, but it has posted a poor sales growth. An industry source said, “From the beginning of sales, more than 250,000 won [US$224] of mobile phone subsidies has been injected. Currently, the device can be purchased at around 200,000 won [US$179], but sales volume is pretty low.”

The reason for sluggish sales lies in the fact that the G3 Screen equipped with LG's first AP Nuclun performs poorly compared to prices. Nuclun is an octa-core processor composed of a 1.5 GHz quad-core chip and a 1.2 GHz quad-core chip, developed with an investment of more than 200 billion won (US$179 million) over the past two years.

Industry analysts are saying that LG has yet to solve its problems, with a decline in AP performance resulting from the overheating phenomenon of mobile devices. Product performance is decreasing, since Nuclun is designed to automatically reduce CPU clock speed when mobile devices are overheated. BK

Unexpected Hurdle

Problems in Qualcomm Snapdragon Set Alarm Bells Ringing for Samsung, LG

Local smartphone makers are nervous at the prospect of a delay in the launch of new models next year, including the Galaxy S6 and the G4. It is unclear whether or not the supply of the Snapdragon 810 will exist in the first half of next year due to technical problems such as overheating and a decline in speed.

Samsung is likely to solve the problem by featuring its own Exynos chips in the Galaxy S6, but LG seems to be in trouble. Even though the company has its first AP, NUCLUN, it is not better than entry-level APs. If Qualcomm cannot supply the Snapdragon 810, it won't be easy for LG to find an alternative for the G4.

“Qualcomm is faced with hard-to-solve problems. The Snapdragon 810 overheats when it reaches a specific voltage. It also slows down owing to problems with the RAM controller connected to the AP. In addition, there is an error in the driver of the Adreno 430 GPU,” said an industry source on Dec. 2.

The source added that for these reasons, it is unclear if the Snapdragon 810 will be used in premium smartphones like the Galaxy S6, the G4, and the Xperia Z4 scheduled to be released in the first half of next year.

The Snapdragon 810 is an octa-core AP composed of four quad-core A57s and four quad-core A53s, which supports 64-bit and an Ultra HD display.

Handset makers like Samsung and LG, which focus on premium smartphones, are likely to use technology. BK

War without Guns

Global IT Companies Vying for 5G Communications Technology

Visitors to SK Telecom's booth at the World IT Show in October of this year experience 5G simulation experiences.

Global mobile carriers, including those in the United States, Japan, Korea, China, and Europe, are striving to develop 5G mobile communications technology and dominate the market in advance. Local mobile communications companies such as SK Telecom and LG U+ are also banking on the development of 5G technologies and first occupation of the market.

The hallmark of this new technology is real-time everything. It is 1,000 times faster than 4G and 10,000 times faster than 3G. Thirty-three HD movie files will be able to be downloaded in just a second. Another point is machine-to-machine communications. Time-consuming work, information security activities, and many other things will be able to be handled not by people but by machines.

5G is the key to unmanned vehicles to be put to commercial use soon, too. Self-driving vehicles will be able to collect a huge amount of data in real time so that the systems can be run by computers. Speedy data transmission based on 5G will become indispensable.

These days, countries around the world are having difficulties beating the trend of low growth. Under the circumstances, 5G is expected to be a boon to their efforts for tiding over the economic recession as an innovative technological tool.

No technical standards have been set in this field, and thus technology developed ahead of others is what matters the most. China is already working on 5G on a national level, and Japan is planning to demonstrate the technology at the 2020 Tokyo Olympics.

SK Telecom and Samsung Electronics recently set out to cooperate with each other as well. Although Korea has some competitive edge in the industry, the stable commercialization of the technology is the most important goal, in order to avoid WiBro's fate.

Step Towards 5G

SKT Develops Two Core 5G Technologies

SK Telecom employees demonstrate Orchestration, which enables the design, development, and establishment of telecommunications services to consumers based on a virtualized cloud.

SK Telecom announced on Nov. 25 that it has successfully developed two core technologies related to network virtualization, widely acknowledged as essential for a 5G network.

Korea's largest mobile carrier explained that it will be possible to easily and rapidly introduce and improve new services based on software when everything from core networks to base stations is virtualized, unlike the existing method that introduces services through the development of separate hardware.

The newly-developed technology called "Orchestration" is able to provide telecommunications services to consumers on a virtualized network. The technology makes it possible to maximize efficiency by combining several features of virtualized networks, and developing or building telecommunications services like LTE for the Internet of Things (IoT), or a national disaster safety communications network based on software.

The carrier stresses that it has also succeeded in developing a cloud virtualized Radio Access Network (Cloud vRAN), a core technology for the development of next-gen base stations, in partnership with Nokia. The existing technique can virtualize only the core network, but the new technology is able to virtualize the entire communication network, including base stations, based on a cloud environment.

The technology will make it possible to operate networks more efficiently, since virtualized communications functions can be created, changed, or managed more easily. When an error occurs in a communications network, the new technology can greatly reduce the time needed to discover the error and recover the network through an auto recovery feature.

Mobile Banking Competition

Participation of Large ICT Companies Increases Size of Mobile Banking Market

Daum Kakao has officially launched its mobile money transfer service Bank Wallet Kakao on Nov. 11, and large ICT companies like Samsung Electronics and LG U+ are also starting mobile banking businesses. These ICT firms are accelerating the launch of a new offensive to dominate the market by touting their technical strength in addressing security problems, which are the biggest concerns for consumers in mobile banking. Hence, there is increasing anticipation that the local finance and IT industries will start a boom.

According to industry sources on Nov. 12, Samsung is said to be debuting a mobile money transfer service within the year, following the release of the mobile payment service Samsung Wallet in September of last year. The company is working with Yelopay to roll out its mobile money transfer service. It is also proceeding with a plan to link the mobile app cards of major credit card companies to Samsung Wallet.

LG U+ is also reportedly working to add a money transfer feature to its mobile payment service Paynow. The company believes that it is too early to announce the details or the release date for the service, but its preparation for the mobile money transfer service has reportedly entered its final stretch.

The mobile payment services of Samsung and LG U+ are expected to be similar to Bank Wallet Kakao.

Bank Wallet Kakao enables users to charge up to 500,000 won (US$455) and transfer as much as 100,000 won (US$91) per day by entering a password on a mobile device. If large local firms like Samsung and LG U+ begin their mobile money transfer services, it is expected to change the dynamics of the financial market.

An industry source said, “Bank Wallet Kakao only provides existing banking services on the mobile messaging platform, but the mobile banking services of Samsung or LG U+ will probably be more advanced.”

The penetration of ICT enterprises into the mobile banking market is likely to have dramatic implications, as their services are expected to solve security and technical problems.

SKT, KT, and LG U+ are making an effort to enhance security technologies to prevent financial crimes in mobile baking. If these techniques are integrated into mobile payment and money transfer services, the maximum amount allowed for charging and sending money per day in mobile banking services provided by local mobile carriers will be greater than that of Bank Wallet Kakao. The three carriers are already competing with each other to dominate the market with more secure mobile payment services.

Active X Not Required

BC Card Launches Simple Payment Service PayAll Needing No App, no Active X

Direct purchases on overseas websites are becoming more common, and various simple payment services are emerging. With the simple payment market rapidly changing, a newly-launched online payment service is drawing a lot of attention.

PayAll, which was developed by BC Card to counter foreign online payment services, enables users to make payments online without the need to install Active X or an app.

“It is possible to use our service in all kinds of web browsers, including Internet Explorer, Chrome, and Safari,” said an official at BC Card on Nov. 19. The official added, “People can make a payment via mobile devices, like smartphones and tablet PCs, without installing a separate program.”

This service allows members to make a payment at the click of a mouse or with one touch on a mobile device, after their initial login process at online shopping malls. Therefore, it is widely acknowledged to be similar to Amazon's OneClick-Pay or eBay's PayPal.

The Korean credit card company is planning to target the online payment market by showcasing another service that does not need Active X soon. As part of its plan, BC Card is scheduled to unveil a NFC-based mobile phone payment service in November using integrated circuit cards.

Slow Progress

Kakao Pay Struggles to Increase Affiliated Stores due to Higher Fees

Kakao Pay, Kakao's simple payment service provided by LG CNS, is not rapidly expanding its affiliated stores, even with its partnerships with all of the card companies in the nation. Many people are saying that the untested payment volume and higher fees compared to other online payment service providers are major sticking points for the growth of the service.

According to industry sources on Nov. 24, GS Home Shopping is the only company that has introduced Kakao Pay, except for platforms such as Kakao Presenting and Kakao Pick on KakaoTalk.

Initially, LG CNS, an online payment service provider for Kakao Pay, was scheduled to launch Kakao Pay at GS Home Shopping in early September, Hyundai Home Shopping at the end of September, and Home & Shopping in October. It was also going to introduce the service to Home Plus, lotte.com, and wemakeprice.com at some point. Related to this issue, an official at LG CNS explained, “It took a longer time to develop a system. So, the start of the service have been delayed.”

However, industry analysts are saying that weaker-than-expected results are a major reason behind the slow expansion of affiliated stores, rather than the system development. The home shopping industry believes that the payment rate of Kakao Pay in GS Home Shopping is lower than expected.

Online payment service providers and credit card companies think that Kakao Pay's fees are the chief obstacle to increasing the number of affiliated stores. In general, online payment service providers take away 3.4 to 4.0 percent of the total transaction from shopping malls, including 2 percent for affiliated stores of credit card companies. Nevertheless, Kakao Pay collects more than 4 percent by additionally reflecting a toll charge for using Kakao platforms. And LG CNS also pays for using Kakao platforms.

The number of subscribers for Kakao Pay reportedly surpassed 1.2 million as of October.

Voice Recognition Competition

Growing Competition in US$72 Billion Voice Recognition Market

Google, Apple, Microsoft, and Amazon are scrambling to develop voice recognition technology. The tech is receiving a lot of attention as a core method to control next-gen smart devices like smart watches.

Google revealed a Korean version of its new voice-based features such as voice answering and action functions on Dec. 4. Smartphones or smart watches with a voice answering function can also reply with their own voices, as opposed to the previous method that merely recognizes a voice and does a search. The voice action feature is a service that delivers what was said via text messages.

Amazon unveiled its voice recognition device called Echo in November. The soda can-sized device can understand and deliver the meaning of a word from the context thanks to its communications feature.

Apple is a dominant player in the voice recognition area. After showcasing its speech recognition software Siri in 2011, the company has continued to improve it. The intelligent personal assistant can give real-time information about weather or other information through voice commands. Simple communication is possible as well.

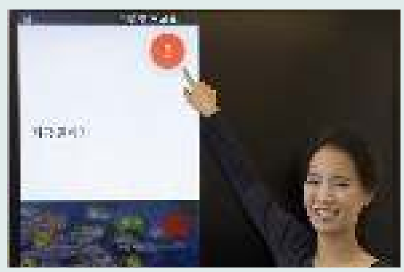
Local companies are also stepping up efforts to develop voice recognition technology. Naver Labs is involved in the development of a voice recognition method that can best understand the Korean language. Currently, its trial edition is available, and it continues to improve.

Last month, Daum Kakao added a text-to-speech feature to speech synthesis program Newtone Talk. It is possible to convert newly-coined words into voice. The firm made public the technology so that other developers can create new services.

An advance in voice recognition technology is deeply related to the Internet of Things era. Voice is considered to be the best method to control smartphones, PCs, and other devices such as TVs, refrigerators, and lighting. Unlike a keyboard or a mouse that needs a screen to operate, only a small microphone is necessary to run a voice recognition-based system.

The Korea Institute of Science and Technology Information predicts that the global voice recognition market will increase from US$72 billion (80 trillion won) this year to US$113 billion (126 trillion won) in 2017. BK

Google Showcases New Voice Services



A product manager at Google Korea demonstrates the Voice Answer function on Dec. 4.

Google Korea held a media event of Voice on Mobile at its headquarters in Seoul on Dec. 4, officially announcing new voice-based features such as voice answer and action functions with an emphasis on the importance of voice-enabled technologies in the mobile era.

The new voice-based features can do a search, operate apps, send text messages and e-mail, make phone callS, make a schedule, and create a reminder. When asked in natural language, the question is answered in voice.

Voice-enabled technologies were born with a sudden rise in demand for voice search. The mobile voice search usage rate has nearly doubled this year. In the U.S., 50 percent of mobile device users are aware of voice-based features, with 30 percent actually using the service.

In 2008, Google's speech recognition service was first showcased in the U.S., and it was introduced in Korea after two years. The service is designed to activate just by saying "OK, Google" to a device with Android 4.4 KitKat installed on it, without having to touch the smartphone screen.

Steve Cheng, director for the mobile search area at Google, said, “The importance of voice has been growing in the wearable era. People will communicate with smart devices, like not only smart phones and wearable devices, but also cars and TVs in the foreseeable future.” BK

New Honeymoon

iPhone 6 Features Flood of Components Made by Samsung

Samsung Electronics and its affiliates are supplying an increasing number of components for the iPhone 6. After Samsung and Apple withdrew all patent infringement lawsuits last August, except those in the U.S., their strategic partnership seems to have deepened.

According to industry sources on Nov. 25, the iPhone 6 will feature batteries manufactured by Samsung SDI. Some raise the possibility that Samsung's TLC NAND flash will also be used in the iPhone 6.

At first, Apple discussed with Samsung about the supply of NAND flash for the iPhone 6. Due to problems with prices, Toshiba's TLC NAND flash was used in the 128GB models, and components made by SK Hynix, Toshiba, and SanDisk were used in the 64GB models.

However, as overseas IT news sites reported functional defects in the 128GB models, Apple is said to be considering whether or not to replace the TLC NAND flash made by Toshiba with Samsung's own TLC NAND flash. If Apple and Samsung strike a deal, Samsung will supply both DRAM and NAND flash to the iPhone 6.

Some in the industry speculate that the two companies are jointly developing communications chips for the next iPhone. There are also widespread rumors that they will unveil results in the latter half of next year.

Samsung was the supplier of application processors (APs) for the iPhone 5, but Taiwan Semiconductor Manufacturing Company was selected as the AP supplier for the iPhone 6. Apple is planning, however, to use Samsung's production process of 14-nm FinFETs again for the next iPhone.

In addition, Apple reportedly asked Samsung to supply APs for the Apple Watch, which is scheduled to be released early next year. The fact that the Korean tech giant is working to develop a single-chip solution that integrates Exynos and modem chips to stop Qualcomm's dominance increases the possibility of the cooperation between the two tech companies.

The growing influence of Chinese smartphone makers is cited as another reason for the strategic partnership between the two firms.

According to data compiled by market research firm Strategy Analytics, Samsung and Apple have dominated the global smartphone market over the last four years, but their combined share has fallen below 40 percent since June. In contrast, the share of Chinese handset makers has soared to 25 percent, up 12 percent from the previous year. BK

Xiaomi's Challenges

Xiaomi to Mount Serious Challenge to Samsung, Apple with 100,000 Won Tablet

Xiaomi Technology, which nabbed third spot in smartphone rankings with low-priced phones, is now targeting the low-priced tablet market. According to overseas media outlets and industry sources on Nov. 26, Xiaomi will unveil 9.2" tablet PCs soon in the price range of US$100.

One ultra-low-cost tablet will have 1280x720 resolution displays, an Adreno 306 GPU, and a 1.2GHz quad-core Qualcomm Snapdragon 410 backed by 1 GB RAM. It will be able to store 5.8GB of data, and have 8GB memory and a dual camera. It is expected to be a WiFi and LTE-enabled product.

An industry source said, "When the technical specifications of the new model and the price of existing products are taken into account, the price of the tablet PC will be around 599 yuan (108,000 won, or US$98)." The source added, "It is likely to be launched early next year." Experts are saying that the new tablet PC will exert a huge influence in the tablet market, since the model is similar to the iPad Mini in performance, but 25 percent cheaper.

The release of ultra-low-cost tablets by Xiaomi can be interpreted to mean that the Chinese company is aiming at becoming a major player in the tablet market using a high-spec and low-price advantage.

Xiaomi is running its own operating system MIUI, and the number of users is estimated at more than 70 million people. The Chinese tech firm is planning to feature MIUI in smartphones, tablets, and TVs, thereby increasing the number of users to 200 million by 2015 or 2016.

Xiaomi is already one of the largest tablet vendors in the Chinese market. According to market research firm IDC, the company started to sell its first Android tablet in July of last year, and became the third-largest tablet supplier in China in the third quarter of this year with a 7.6 percent share. The gap between Samsung Electronics and Xiaomi in market share is only 0.6 percent. The Chinese firm was able to jump to third place in the local market, only one quarter after it rolled out its tablets.

Countering Samsung by Establishing Manufacturing Bases in Emerging Economies

Xiaomi Technology is getting a lot of attention in the global IT industry, since it revealed that it will expand its production base to target emerging markets.

According to industry sources and overseas media outlets on Nov. 25, Hugo Barra, vice president of Xiaomi, had an interview with Bloomberg, saying, "Through partnership with Foxconn and FIH, we will be able to make products in India within one to two years, and Brazil sooner."

The Chinese handset maker, which started to expand its reach to Southeast Asia late last year, has tried to enter ten countries this year, but met with little success in Thailand, Russia, Mexico, Brazil, or Turkey. The phenomenon is attributable to the fact that the company was unable to supply products to those countries, since there were no production facilities. Therefore, Xiaomi apparently wants to solve the problem through local production.

Xiaomi has successfully penetrated India, Singapore, Malaysia, the Philippines, and Indonesia so far this year, and India, the world's third largest smartphone market, has become one of the company's major markets.

The Indian smartphone market expanded 84 percent year-on-year in the second quarter, and the market is expected to grow 38 percent next year, according to market search firm IDC.

In fact, Xiaomi's low-priced strategy dovetails nicely with the fact that low-priced smartphones are quite popular in the Indian market. BK

Wearable App Competition

Three-way Battle in Securing Mobile Application Ecosystems

Google's Android Wear and the Tizen operating system (OS) are waging a fierce battle with each other to secure an application ecosystem for wearable devices. With Apple's iOS joining the trend, the competition for wearable devices has kicked into high gear.

According to industry sources on Nov. 19, the number of apps for Android Wear-based wearable devices recently surpassed 1,300, overtaking the figure for Tizen-powered wearable devices. Android Wear is a wearable version of Google's Android OS. Currently, there are 1,300 apps available for Tizen OS-enabled wearable devices.

In August, there were more than 1,000 apps for Tizen devices, while only 300 apps were available for Android Wear-powered devices. At that time, Samsung's strategy to dominate the market seemed to be working. Starting with the Galaxy Gear in September of last year, the Korean tech giant released the Tizen-based Gear 2 and Gear 2 Neo in May, and recently the Gear S. The company has tried hard to secure developers to expand its ecosystem for wearable apps.

However, Samsung now lags behind Google. An increasing number of Android Wear-powered smart watches have launched, including LG's G watch and G watch R, Motorola's Moto 360, Asus' Zen watch, and Sony's Smartwatch 3. Moreover, the number of developers participating in Android Wear is rapidly increasing.

According to research firm Strategy Analytics, Samsung was the top smart watch seller in the second quarter of this year, with a 73.6 percent market share. Nevertheless, industry analysts are saying that the Tizen-based application ecosystem is expanding slowly.

With the introduction of various Android Wear-enabled smart watches, Samsung might lose its dominance in the smart watch market next year.

Competition for the mobile application ecosystem has heated up with Apple's participation. Apple distributed WatchKit to iOS developers on Nov. 19, a toolkit that allows developers to begin coding and testing apps for its upcoming smartwatch. The Apple Watch is expected to be released in February of next year.

Since the app ecosystem is considered to be a core element to lead the wearable device market, the competition between Samsung, Apple, and Google for the area is likely to be more intense.

An industry source pointed out, “The Apple Watch can only sync with the iPhone 5 and 6, and Samsung's Gear series with some of the Galaxy devices. Consequently, the use of Tizen OS and Apple's iOS is not so rapidly expanding compared to Google's Android Wear.” The source added, “Strategies for open-source wearable devices are badly needed right now.”

No More YouTube

Broadcasting Companies Decide Not to Provide Content to YouTube

Major broadcasting companies and online video platform providers in the country are actively seeking to counter YouTube. Broadcasting companies have decided not to provide programs to YouTube any more, and to supply content to Naver and Daum Kakao instead. Hence, the industry is paying attention to whether or not the decision will cause a change in the dynamics of the local online video market dominated by YouTube.

According to industry sources on Nov. 24, people in the nation won't be able to watch SBS video clips through YouTube, using either their PCs or mobile devices, starting on Dec. 1. An official at SBS said, "We will not provide our TV programs on YouTube from Dec. 1." The official added, "Other online video suppliers are going to follow suit." SBS was the first broadcasting company to provide its programs to YouTube in 2010. Major terrestrial broadcasting companies and cable companies are also going to discontinue their YouTube services soon.

Last June, these companies established Smart Media Rep (SMR) to better negotiate with YouTube for streaming services. This time, SMR member companies decided not to provide their content to YouTube. Responding to it, local online video platform providers like Naver, which felt a crisis at the dominance of YouTube, made an incredible offer to sign contracts for content supply.

As a result, those who access YouTube via local IP addresses won't be able to watch related broadcasting companies' programs. The content will be distributed through local platforms like NAVER tvcast and Daum tvPot.

The reason for cooperation between local content providers and online video platform providers to curb YouTube's dominance lies in the fact that their interests fit together well. Since YouTube dominates the Korean online video streaming market, other companies cannot exert leverage in that market.

Even though local content providers can make programs with high cost, profits from content go directly to Google. From early this year, SMR has constantly asked YouTube to negotiate, but to no avail.

An industry source remarked, "Google takes away 60 percent of sales from video ads on YouTube." The source added, "Broadcasting companies have contributed to the growth of YouTube with Hallyu content, but they rarely get profits from sales occurring on YouTube. So, YouTube is just one method to promote programs."

Thanks to Hallyu, or the Korean Wave, YouTube accounts for 79.9 percent of the local video streaming market as of October of this year. Its market share was only 2 percent in 2008.

Naver and Daum Kakao have also joined the trend. Their combined share is said to be less than 5 percent of the market, which is dominated by YouTube, followed by Pandora TV.

Therefore, Naver and Daum Kakao have decided to distribute 90 percent of sales from content to SMR. Unlike YouTube, SMR has the right to select ads and arrange programs on NAVER tvcast and Daum tvPot. BK

Smart Lockers

LG U+ Develops Smart Automated Locker System Converging IoT with LTE

LG U+ employees demonstrate the use of a smart locker system in a subway station that accepts a variety of payment systems wirelessly.

LG U+ started working on a smart automated locker project that integrates LTE network-based Internet of Things (IoT) technology into automated lockers in the subway station using its LTE routers.

With the transition from an analog to digital method using a touch panel, it became necessary to use communications lines in automated lockers. However, it was difficult to install wired networks in the subway station. Moreover, installation cost a lot of money.

As a result, LG U+'s LTE routers were chosen as an alternative to wired networks, since those LTE routers can be installed anywhere with relatively low cost. The smart automated locker with a built-in LTE router enables operators to check the conditions and status of the system in real time. It is also possible to effectively manage the system, because it can be upgraded wirelessly.

On top of that, the automated locker system provides many options for user authentication such as passwords, mobile, or barcode certifications instead of using keys. It is also user-friendly, since the system supports a variety of payment methods including cash, credit cards, and mobile payments.

The Korean mobile carrier said that the development of this product is likely to accelerate the replacement of 1,400 automated lockers installed in 710 subway stations nationwide with smart automated lockers.

Meanwhile, LG U+ launched the Momca, which is a combination of high-speed Internet and Internet phone. The company is focusing on the home CCTV market with the number of double-income couples and single-person households on the rise.

Kids, pets and elderly persons at home can be monitored in real time and voice talking is also possible for emergency cases. The CCTV camera can move almost 360 degrees horizontally and 120 degrees vertically. The commercial service is scheduled to be available from the middle of this month.

Home CCTV is a key part of home networking. Not only security service providers but also mobile carriers and broadcasting companies are focusing on it as a future growth driver. According to Strategy Analytics, the global smart home market is expected to grow to US$119.5 billion by 2019.

57 Trillion Investment

Public Energy Corporations Concerned over Low International Oil Prices

The Korea Gas Corporation (KOGAS), Korea National Oil Corporation (KNOC), Korea Resources Corporation (KRC), Korea Electric Power Corporation (KEPCO), and its subsidiary power generation companies have invested a total of 57.3 trillion won (US$51.8 billion) in overseas resource development projects between 2008 and June 2014.

Forty point eight trillion won (US$36.9 billion) of it was invested after the inauguration of the current government, while 16.5 trillion won (US$14.9 billion) was invested before than that. Twenty-two trillion won (US$19.9 billion) has been recovered from the latter. The KNOC invested 15.8 trillion won (US$14.3 billion) under the current government, while the amounts reached 8.7 trillion won (US$7.9 billion) for KOGAS, 2.4 trillion won (US$2.2 billion) for the KRC, and 1.5 trillion won (US$1.4 billion) for KEPCO and its subsidiaries.

The KNOC invested in 27 projects in Canada, the United States, Peru, Great Britain, Uzbekistan, Iraq, the United Arab Emirates, Columbia, Kazakhstan, and others. The idea was to join EP Energy's and Eagle Ford's shale gas development projects to provide against a change in the international energy market. KOGAS participated in 20 projects for the same purpose in Uzbekistan, Myanmar, Iraq, Canada, Australia, Indonesia, and Mexico. The KRC took part in 21, including bituminous coal, nickel, and uranium development projects in Australia; copper development projects in the United States, Mexico, and Peru; rare earth metals in China; lithium in Chile; and bituminous coal in South Africa.

Under the circumstances, these corporations are expected to earn less-than-expected profits from such massive projects, as OPEC recently decided not to reduce the petroleum supply. If the low international oil prices continue, the shale gas of the corporations becomes relatively higher, along with those of mineral resources. It has already been pointed out that OPEC would maintain low petroleum prices in order to tackle the United States' shale gas development.

At present, KOGAS imports most of its overseas resources to Korea, while the KNOC is focusing on local sales. The KRC is engaged in both. In the meantime, these corporations are maintaining that their resources development projects should be considered with a long term perspective, instead of being criticized for the short-term rate of return, and as an effort for achieving the great cause of energy self-sufficiency.

Retracting from Overseas

Under such circumstances, KEPCO will sell or transfer its overseas resource development projects to other energy corporations in the public sector. The company has invested 1.6 trillion won (US$1.44 billion) in the projects over the last five years.

The Korea National Oil Corporation is the national oil and gas company of South Korea, operating oil and gas fields in Vietnam, Libya, Peru, Indonesia, Nigeria, Yemen, Kazakhstan, Russia, Canada, and South Korea.

According to the Ministry of Strategy and Finance's plan, the five bituminous coal mining projects and five uranium mining projects of KEPCO are scheduled to be sold or transferred to the Korea Hydro & Nuclear Power Corporation by 2016. In addition, its oil and gas exploration projects are to be handed over to the Korea National Oil Corporation with the Korea Gas Corporation in charge of imports and distribution in Korea. The Korea Resources Corporation will take its mineral resources development projects.

Moreover, the overseas power generation projects of KEPCO and five of its subsidiaries, on which more than 3 trillion won (US$2.7 billion) has been spent, are going to be trimmed down. The 21 solar power generation projects underway in Morocco, Chile and the like will be cut in half, while the subsidiaries will dispose of six of their investment projects, including wind power generation in the Philippines. Some of their shares in the four thermal power generation projects in Chile and so on will be put up for sale, too. BK

Bungling Nuclear Safety

Nuclear Safety Faces Critical Juncture with Undetected Fire, Exposition to Radiation


Kori Nuclear Power Plant in Gori, South Korea. (Photo courtesy 102orion/Wikimedia Commons)

A fire occurred in the nuclear fuel storage facilities of the Kori Nuclear Power Plant located in Kijang County, Busan City, but none of the workers was aware of it for over an hour.

According to the Korea Hydro & Nuclear Power Corporation, the fire occurred at 4:26 p.m., Nov. 11, at Kori Power Plant Unit 4, burning up a waste dryer along with some gloves and towels. It is assumed that the dryer overheated and started the fire while drying wet gloves.

An employee, while looking around the site, detected smoke at 5:38 p.m. and extinguished the fire after 14 minutes. "One of the two smoke detectors is designed to be mute, and the other one sounded an alarm but the employees could not hear it," the corporation explained. The alarm was displayed in the main control center but the employees did not see or hear anything.

The slow response to the fire is troubling, since the facility trained to fight them just this summer.

This past June, the Kori Nuclear Power Plant ran a fire drill in the headquarters building to train its employees on early fire extinguishing skills and test the disaster manual. About 300 employees, firemen, and security guards at Kori Nuclear power plant participated in the drill by following the announcements, catching the fire in the early stages with fire extinguishers and fire hydrants, and test-driving the fire trucks.

Power Plant Attempts to Cover Up Reactor Shutdown

But this fire is only the latest incident at the Kori Nuclear Power Station this year.

This past summer was a busy time for Kori Nuclear Power Plant, as Unit 2 was shut off because of heavy rainfall. On Aug. 25, a localized torrential downpour of over 100 mm per hour in Busan City resulted in rainwater infiltrating one of its annexes, and the corporation had to close the facilities.

At that time, the corporation covered up the incident by saying, "We shut down the facilities just in case, and this has nothing to do with the safety of the power station." However, the Nuclear Safety and Security Commission's following report read, "The manual shutdown of the reactor was because of the malfunctioning of four of the circulation water pumps, attributable to the heavy rain."

In the wake of the Fukushima disaster, the commission included watertight doors and discharge pumps in its safety enhancements. However, the area in question was excluded from the measures, since it was not a major part of the facility.

Exposed to Radiation

In addition, display boards showing information such as the radiation levels in the vicinity of a nuclear power station have been found to be poorly repaired or maintained at nuclear power plants in Korea.

The Korea Hydro & Nuclear Power Corporation installed the equipments in June 2012 at a cost of 5 billion won (US$4.5 million). The two-year warranty provided by the installer was terminated this summer, but the corporation has yet to select a new maintenance service provider.

"The boards around the Kori Power Plant in Busan and the Ulju Power Plant in Ulsan have not been working properly for months," said a local daily newspaper in Busan City, adding, "Besides, the boards showed 'In Operation' for about 10 days, even after the shutdown of Kori Power Plant Unit 2 for the heavy rainfall in August."

According to industry insiders, the repair and maintenance takes approximately 500 million won (US$449,135). At present, service provider candidates are asking for a package deal, but the corporation prefers case-by-case payment of repair costs. BK

Lunar Exploration Project

Korea Ready to Become 7th Country to Reach the Moon

The Korea Space Launch Vehicle-1 successfully takes off from the Naro Space Center in Goheung, South Korea in 2013.

Korea's project to launch a lunar probe using its own launch vehicle has passed its feasibility study by the Ministry of Strategy and Finance to reach the final budget deliberation stage, the last before commencement.

The Korean government's lunar exploration project took concrete shape through the preceding Roh Moo-hyun administration's Space Development Roadmap and Lee Myung-bak administration's Basic Promotion Plan for Space Development. The current government is planning to come up with its own lunar orbiter and lunar module by 2020, moved up by five years compared to the previous government road map.

The project is divided into two phases. The goals of the first phase, which continues until 2017, include the completion of the basic technical design of the orbiter and module in cooperation with NASA, and the development of a test orbiter. At the same time, the scientific equipment to be carried in the orbiter and earth-bound control station to be responsible for deep space communication are will be built.

The second phase is for the self-production of the orbiter and module and actual launch using a Korea Space Launch Vehicle (KSLV). To this end, 15 government-funded research institutes such as the Korea Aerospace Research Institute have formed a council and conducted 31 research tasks.

According to the results of the recent feasibility study, the economic value of the lunar exploration is estimated to be approximately 3.8049 trillion won (US$3.4689 billion), which is equivalent to 5.17 times the budget input. In addition, the project is expected to create 324.6 billion won (US$296.1 million) in added value along with 4,800 jobs. Intangible effects, like a higher national brand value and national pride, are boundless.

The government signed a joint research agreement for lunar exploration with NASA in July this year. The arrangement is based on Korea's need for core orbiter and probe technology, and the United States' attempt to do more economical space research. The U.S. is currently concentrating on Mars, which means budget for the moon is hard to come by. It is expecting its research equipment to be loaded onto Korea's test orbiter and probe slated to be launched in 2017. Korea is anticipating that mutual cooperation will help the development of its navigation and deep space communication technologies. However, the cooperation could misfire if the project goes awry for any reason. BK

Legal Warning

Foreign Companies - Beware of Violating Korean Criminal Laws That You Didn't Even Know Existed!

Patrick J. MONAGHAN

What do the following scenarios have in common?

A Korean subsidiary of a foreign telecommunications company receives faulty equipment from a customer in Korea. It sends the faulty equipment to its repair facility in Japan to be repaired and then returned to the customer in Korea. The company fails to report the shipping of that broken equipment to any Korean government authorities.

Another Korean subsidiary conducts a variety of business transactions with its foreign parent company and sister company. No cash is exchanged. The companies set off their payables and receivables by adjusting the inter-company accounts on their books. They do not report those adjustments to a foreign exchange bank.

A foreign company operating in Korea is interested in securing a contract with a privately-owned Korean company. The foreign company is competing with other companies to obtain the contract. To improve its odds of winning the contract, the foreign company flies the CEO of the Korean company to Jeju Island for a weekend of golf. The Korean company CEO decides to award the contract to the foreign company that provided the golf outing, even though that company did not submit the lowest bid for the work.

Finally, the building lease of a Korean subsidiary of a foreign company is going to expire soon. The company needs to either renew its lease or find new space to lease. The company offices currently are located near Seoul City Hall, but the company's Representative Director resides in Gangnam and has a lengthy commute to work each day. The person charged with investigating available office space identifies a number of different properties that will be available for the company to lease. One of them is located in Gangnam, closer to the residence of the Representative Director. But that space is more expensive than renewing the existing lease. Nevertheless, the Representative Director decides to lease the property in Gangnam, reasoning that it will reduce his commute time and allow him to spend more time doing work on behalf of the company.

The answer to the question above is that all of these companies and/or their officers may have unwittingly violated Korean criminal law. In the first scenario, the company that sent broken telecommunications equipment overseas for repairs may have violated Korean export control laws. In the second scenario, the setting off of inter-company debts without reporting and receiving authorization from a foreign exchange bank or the Bank of Korea may have violated currency exchange laws. In the third scenario, Korean gift-giving laws may have been violated. Finally, in the last scenario, a claim might be made that the Representative Director of the company has engaged in a breach of trust owed to the company.

Criminal laws in Korea often carry with them fines and even jail time. Moreover, the Representative Director of a company in Korea can personally be held criminally liable for company violations of Korean criminal laws.

Korean civil and criminal laws may be quite different from the laws of the country where a foreign company has incorporated. Quite unexpectedly, conduct that would be perfectly legal in one's home country may give rise to criminal or civil liabilities in Korea. Therefore, it is not surprising that foreign companies frequently violate Korean criminal laws that they did not know existed. Oftentimes the company learns about the law for the first time when it is contacted by a police investigator at the beginning of a criminal investigation of the company.

For this reason, it is important for foreign companies operating in Korea to educate themselves as to local laws that might apply to them. They should identify laws that may be applicable to their particular industry, as well as laws that would apply across the board to any company operating a business in Korea. Then they should educate their personnel about those laws so that they comply with them in their business operations. A small amount of time and money invested in becoming familiar with such laws and preventing violations can save much greater amounts of time and money that would be needed to defend the company and its officers if a criminal investigation takes place. BK

Intellectual Property Framework

Long-Term Policy Goals, Directions for a Creative Economy

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On July 20, 2011, the Intellectual Property Framework Act (IPFA) became effective in Korea, focusing government support for the creation, protection, utilization, and infrastructure of intellectual property (IP) in relation to technology and industry development. This is currently one of the top economic policy agendas of the Korean government.

It was my good fortune to have been deeply involved in the enactment and implementation of the IPFA. Since July 2011 I have worked as a member of the Presidential Intellectual Property Council (PIPC), the highest-level government organization that discusses IP issues and policies, and as Chairman of the IP Protection Committee under the PIPC.

It is from this perspective and knowledge base that I would like to introduce the core of the Korean IP Framework Act, starting by briefly setting the stage.

Painful Experience in Intellectual Property

Korea's story is one of rapid economic development. Currently Korea is 7th in the world in terms of overseas trade volume, and is a member of the OECD. In 2012, Korea exported US$547.9 billion (including exports from semiconductors, cellular phones, and automobiles), imported US$519.6 billion, and the personal GNP was USD$23,000. In 1964, Korea exported US$100 million and personal GNP was just US$100. Much has changed in a relatively short period of time.

The turning point in opinion about IP in Korea came in 1986 in the form of a case involving Texas Instruments and Samsung. Texas Instruments ended up being awarded compensation of US$85 million. This came as a shock to Korean manufacturers and drew attention to the importance of IP. Shortly after, the Korean government led a nationwide campaign emphasizing IP across the entire spectrum of industry, art, and culture.

Many business owners in Korea now believe IP is quite important, because they see it can be used as an asset and a strategic tool.

Inefficient Policy Administration by Korean Government

The responsibility for IP policy is divided between various Ministries and Agencies.

The Korea Intellectual Property Office is responsible for inventions, utility models, designs, trademarks. The Ministry of Health and Welfare is responsible for medicine, drugs, and pharmaceuticals. The National Science and Technology Council oversees all IP related to science and technology. The Korean Communications Commission is responsible for computer programs. The Ministry of Trade, Industry and Energy is responsible for semiconductor chips. And the Ministry of Agriculture, Food and Rural Affairs is responsible for new varieties of plants, and the geographical origins of agricultural products.

Each Ministry or Agency follows its own IP policy and strategy. Not surprisingly, there are sometimes conflicts between the policies and strategies of these bodies. Particularly, when there is a conflict, it is very difficult for a company to know which policy has priority in an enforcement situation.

History of IP Framework Act

On August 30, 2005, about 400 people, including many nationwide leaders in various areas, had the inaugural meeting of the Intellectual Property Forum (IPF) with the goal of increasing the awareness of the importance of IP, and improving the IP system of the time in several areas.

The following organizations and associations were represented: the

Korean Federation of Science and Technology Societies, Federation of Korean Industries, Korean International Trade Association, Ministry of Culture and Tourism, Federation of Artistic & Cultural Organizations, and the Korea Chamber of Commerce & Industry.

All of the members shared the views that IP is a national competitiveness issue. They also agreed that a key aspect of IP lies in the combination and harmonization of culture, art, science, and technology, and an important way for Korea to grow is through IP.

I participated in this forum as a founding member of the Intellectual Property Forum.

Main Structure of the IPFA

The bill set up the PIPC, which reports directly to the president, and to which the IP Strategy Planning Office reports to. The PIPC includes the Prime Minister and a representative of the private sector in IP as co-chairs. The members are chosen from the pool of IP experts in Korea.

The purpose of the PIPC is to establish mid and long term policy goals and directions for facilitating the creation, protection, utilization and enhancing the base of IP. It also should adjust the IP policies of each administrative Ministry and Agency. It is to screen the bills to be enacted or to amend related IP laws and regulations. Also, it must establish a system for the evaluation of IP, and approve the budget for governmental R&D in connection with IP policies of Ministries and Agencies. And, finally, it must approve the appointment of IP policy officers of central and Local government.

Implementation of the IPFA

On Nov. 22, 2011, the Korean Government set up a basic IP development plan for 2012 to 2016. Also, the National Assembly approved a governmental R&D budget for 2013 of US$14.4 million. With these funds the IPFA began to carry out its mission.

One main purpose of the IPFA is to focus government effort on simplifying litigation procedures such that IP disputes can be resolved more quickly and fairly, considering the needs of IP owners.

There is presently a two-track system for IP litigation in Korea, one for patent invalidation cases and one for patent infringement cases. Patent invalidation cases are first brought before the Intellectual Property Tribunal organized under the Korean Intellectual Property Office, and then before the Patent Court, the High Court, and finally before the Supreme Court. On the other hand, patent infringement cases are brought before the District Court, then the High Court, and finally the Supreme Court. The judges on one side monitor the decisions and judgments of the judges on the other side. This makes the process time-consuming, to say the least. For example, it took 11 years and 8 months for a diaper patent case to reach a signed compromised agreement in 2006. The rights of the IP owner are obviously not being well protected when they must wait almost twelve years for satisfaction.

On Nov. 13, 2013, the PIPC made a recommendation to change jurisdiction for patent infringement cases. Specifically, they recommended that a patent infringement case be handled first by the Seoul Central District Court or Daejeon District Court, then by the Patent Court, and finally by the Supreme Court. And, that at the District Court level, the parties have the option of bringing an unfair competition case, business secret case, or copyright or computer program case before the Seoul Central District Court or Daejeon District Court other than the usual District Court.

The major merits of this change would be that IP owners could then have access to more capable judges with a wider and deeper knowledge of IP, and that the process would be more streamlined since at the high court level both patent and invalidation cases would be handled by the same high level court – the Patent Court. The Ministry of Justice and the Korean Intellectual Property Office will discuss this issue in due course.

Also, Korea agreed through the Free Trade Agreement with the U.S. that the legal power of judges shall be strengthened, especially for a patentee, because Korea does not currently use the discovery system.

Future Plans

In the future, the IPFA plans to deal with a variety of issues. On the agenda is cooperation between IP related organizations, a counter-plan against the unwarranted attempts to invalidate patents, reasonable compensation for damages, delay of litigation and abuse of patent rights, fair protection of patents for small and medium size companies, an IP evaluation system, financing based on IP, fair transactions of IP, and reasonable compensation for employee inventions.

Conclusion

To recap, the IPFA is the highest IP-related law in Korea and is referenced for all other IP-related laws, including the Patent Act, Utility Model Act, Design Act, Trademark Act, Copyright Act, Computer Program Protection Act, Unfair Competition Prevention & Trade Secret Protection Act, Seed Industry Act, Internet Address Resources Act, Agricultural and Marine Products Quality Control Act and Semi-Conductor Integrated Circuit Layout-Design Act.

It is expected that relatively soon the Court Organization Act will be changed with respect to which courts have jurisdiction in patent infringement cases, and that the Presidential IP Council will focus on the hot issues such as, compensation for damages, IP evaluations, financing based on IP, and compensation for employee inventions.

In closing, I would like to say that I feel privileged to have been able to participate as a member of the PIPC and as Chairman of the IP Protection Committee in the establishment of a nationwide legal and administrative system, which has made it possible for me to share certain knowledge with the IP community. With respect to IP, it is my hope that the information in this article at least gives the reader a sense of what is transpiring in Korea and the positive effects it will have for IP owners.

Memory Chips

Memory Semiconductor Market to See Double Digit Growth Next Year

The memory semiconductor market is projected to post double-digit growth next year. As a result, the top-ranked Samsung Electronics and SK Hynix, which is in third place, are expected to perform better. However, it is unclear whether or not an increase in demand will actually lead to an improvement in profits.

According to semiconductor e-commerce site DRAMeXchange on Dec. 8, the global DRAM market is expected to be worth US$54.1 billion (60.3 trillion won) next year, a 16 percent year-on-year gain. On the other hand, the NAND flash market is likely to grow 13 percent year-on-year to reach US$27.6 billion (30.8 trillion won) in 2015, up 13 percent from this year.

The DRAM market is divided up by Korean firms Samsung and SK Hynix, and U.S. company Micron as of the third quarter of this year. The combined share of Samsung (50.7 percent) and SK Hynix (27.6 percent) is 68.3 percent. Samsung accounts for 29.7 percent of the NAND flash market, with SK Hynix at 10.3 percent, and therefore their combined share amounts to 40 percent.

Currently, the two Korean chipmakers are working to secure profits in line with the conversion into nano-scale microprocessing and to improve production capabilities. The two companies are preparing for the operation of the Line 17 facility and the M14 facility, respectively. Samsung already started to mass produce 20 nm DRAM, and SK Hynix is also scheduled to complete the development of micro-processing for 20 nm DRAM within the year, preparing for mass production.

As for NAND flash, Samsung is strengthening product portfolios through the mass production of 10 nm-class products and 3D V-NAND flash. SK Hynix recently finished the development of technologies for V-NAND and TLC NAND flash, and is scheduled to produce those products from next year.

Industry analysts are saying that the competitiveness of local memory semiconductor companies is expected to further improve as a result. In the third quarter of this year, SK Hynix hit the 30 percent mark in returns on sales, and Samsung's operating profit margin in the memory semiconductor business is also considered to exceed 30 percent.

Nevertheless, the price of memory semiconductors is acting as a decisive factor for the performance of local semiconductor companies.

As of late November, the price of a 4GB DRAM module was US$31.75, showing little change compared to early November. As for NAND flash, 64Gb products fell 5.07 percent.

However, the market outlook has been positive so far. DRAMeXchange said, “DRAM manufacturers are going to log strong growth and make huge profits in 2005.” The semiconductor e-commerce site added, “In particular, the weight of mobile DRAM, which comprises 36 percent of the DRAM market, is likely to increase to 40 percent next year.”

Ordinary Wage Conflicts

Hyundai Motor Company's Ordinary Wage Lawsuit Causing Confusion

Robots created by Hyundai Heavy Industries assemble cars in a Hyundai Motor plant.

The court ruling on the ordinary wages of Hyundai Motor Company employees has been postponed due to the differences in the regular bonus payment criteria applied to the workers involved in the litigation. Under the circumstances, the employees are expected to receive different verdicts. Then, the labor-management talks for wage system reform, which is scheduled to be wrapped up by March next year, could go awry, and their conflicts surrounding the ordinary wage issue could explode.

At first, the Seoul Central District Court was going to deliver the ruling on Nov. 7. The lawsuit was filed by 23 workers, and four of them belong to the marketing and repair divisions, with about 9,500 other employees in the labor union. They account for 20 percent or so of the union and had worked for Hyundai Motor Service before Hyundai Motor Company took it over in 1999.

Different bonus payment criteria have been used for the two groups of employees, because the former Hyundai Motor Service workers followed their previous rules even after the acquisition. Unlike Hyundai Motor Service, Hyundai Motor Company provides a bonus for its employees only when he or she works for at least 15 days during a two-month period for bonus payments.

Back in January, the government suggested guidelines based on the Supreme Court ruling, mentioning that any bonus paid only to an incumbent worker or paid only after a certain number of working days does not constitute an ordinary wage due to the lack of fixedness. This is why the labor union and management of the company are predicting two different verdicts for the ruling scheduled for next month.

These days, many employers and employees are interpreting fixedness, one of the conditions for a regular bonus to be recognized as an ordinary wage, in different ways. As such, the controversy over the issue is likely to further intensify, depending on the court ruling next month.

In the case when the regular bonus is considered as part of the ordinary wage, Hyundai Motor Company's annual financial burden increases by approximately 1 trillion won (US$908 million), and the amount increases by up to 3 trillion won (US$2.7 billion) for the Hyundai Motor Group as a whole. The sums skyrocket to 5 trillion won (US$4.5 billion) and 13.2 trillion won (US$12.0 billion) each when the three-year retroactive application is taken into account. BK

Labor Dispute Ruling

Supreme Court Confirms Legality of Ssangyong Motors Employee Layoffs

The Ssangyong Motors' Korando Tourismo.

The Supreme Court ruled that Ssangyong Motors' recent layoffs were legal based on the judgment that the company's crisis at that time was structural, not temporary, and that the company performed due diligence to avoid the layoffs.

According to the current Labor Standards Act, there must be an urgent business need for an employer to dismiss his or her employee for business reasons, and the employer has to perform due diligence to avoid such a situation.

Contrary to the second trial court, the Supreme Court saw the situation before the redundancy as a significant liquidity crisis. At that time, tax incentives for sports utility vehicles were cut, causing a decline in sales. The rapid surge in diesel prices in 2008 and the financial crises both at home and abroad added to the difficulties, too.

The Supreme Court also did not call the size of the layoff into question, mentioning that the matter depends on the employer's determination in such a case. It also considered the Ssangyong Motors' partial shutdown, wage freeze, and acceptance of voluntary resignation requests as efforts to evade redundancy BK

Auto Trends

Korean Automakers' Sales Increased Slightly in November


A Reva i/G-Wiz charging in London, the U.K., between Covent Garden and the Strand.

Hyundai Motor Company, Kia Motors, Renault Samsung Motors, Ssangyong Motors, and GM Korea sold and exported a total of 782,055 cars last month to record a 2.2 percent growth from a year ago and 4.5 percent from the previous month.

GM Korea's and Ssangyong's monthly sales volumes decreased 22.7 percent and 28.3 percent due to less-than-expected overseas sales, respectively. However, Hyundai and Kia increased theirs 4.3 percent and 4.1 percent each year-on-year to 430,026 and 267,734 vehicles, with the labor strikes wrapped up and main models gaining popularity.

Renault Samsung posted a sales growth rate of 56.9 percent during the same period to sell 22,077 cars at home and abroad. The domestic sell-through and export volume skyrocketed by 61.6 percent and 54.0 percent, respectively. The company had recorded a 72.7 percent year-on-year growth in October as well, selling 21,980 cars.

In the domestic market, 126,943 cars were sold last month, which was 6.5 percent higher than a year ago. GM Korea and Ssangyong lost 12.5 percent and 11.2 percent, whereas Renault Samsung, Kia, and Hyundai showed growth of 61.6 percent, 14.2 percent, and 2.6 percent, respectively. In the overseas markets, the sell-through edged up by 1.4 percent to 646,111 cars. Ssangyong's overseas sales volume fell by 43.4 percent due mainly to the Ukrainian crisis, while GM Korea's shipment dropped by 25.5 percent. BK

Imported Car Lovers

People in Their 30s Leading Imported Car Market

Koreans in their 30s are increasing their presence in the imported car market. Automakers such as Volkswagen, Toyota and Peugeot are trying to better win them over as well, with strategic models like the Jetta, Camry, and 2008.

According to the Korea Automobile Importers & Distributors Association (KAIDA), those in their 30s accounted for 38.3 percent of all individuals who bought imported cars between January and October this year, increasing their ratio by approximately 10 percentage points in just five years. They were followed by those in their 40s (28.4 percent) and 50s (17.0 percent).

Industry experts mention the higher competitiveness of foreign cars and change in social atmosphere as two of the reasons.

These days, foreign carmakers do not stick only to large luxury vehicles any more. Instead, they have diversified their lineups to supply compact cars and sports utility vehicles priced at around


A Toyota Camry.

30 million won (US$27,251).

In addition, more and more companies and institutions are adopting a flexible organizational culture so that the employees do not have to drive cars worse than their bosses'. BK

Slow Expansion

Popularization of Electric Vehicles Taking Time in Korea

A Reva i/G-Wiz charging in London, the U.K., between Covent Garden and the Strand.

Global automakers say Korea is the optimum market for the popularization of electric vehicles because of its small territory, concentration of population in metropolitan areas, and advanced IT and electric power infrastructure. Vincent Carre, electric vehicle (EV) sales and marketing director for the Renault Group, said that Korea is the perfect EV test bed at the International EV Expo that took place in Jeju in March this year.

But the reality is different. According to industry sources and the Ministry of Environment, only 1,871 EVs were sold in Korea by the end of last year, when the actual sales volume was limited to 780 cars, falling short of the target of 1,000. The numbers amounted to 117,990 and 59,239 during the same period in the United States and Japan, respectively. China is trying to supply five million EVs to its domestic market by 2020.

Meanwhile, the Korean government recently cut its target by 2020, from one million to 200,000. Its budget for EV subsidies was reduced from 27.6 billion won (US$24.9 million) to 25.4 billion won (US$22.9 million) between 2013 and 2014. This year's sell-through is around 800 as of the end of October.

The low sales are because of a lack of cooperation between government arms. The Ministry held a public hearing in June concerning subsidies for low-carbon vehicles, only to end in vain as the Ministry of Trade, Industry and Energy and the Ministry of Strategy and Finance were opposed to its plan. The objectors maintained that the subsidies would greatly compromise the competitiveness of Korea's auto industry for a very small carbon reduction effect. However, some people have pointed out that the two were against it because of the drop in tax revenue that would be caused by less gas consumption.

At present, the Korean government takes 52.24 percent of the gasoline price as an oil tax. The U.S. only takes 11 percent. A traffic tax of 529 won is imposed on each liter of gasoline, and the overall oil tax increases to 968.92 won per liter when other taxes are added. According to the Ministry of Strategy and Finance, the government collected approximately 13.2 trillion won (US$11.9 billion) in traffic taxes alone last year and 19.4 trillion won (US$17.5 billion) combined in oil taxes, equivalent to 9.6 percent of the total tax revenue for the period. In contrast, only 93.6 percent of electricity charges are estimated to be recovered for now, according to the National Assembly Budget Office.

Korean automakers are not welcoming the popularization of EVs, either. This is because IT and electronics companies can take market share away once the focus of the market shifts to EVs, which has already been witnessed in the case of PayPal co-founder Elon Musk and his Tesla.

Still, experts are warning that the prevalence of EVs and green cars in the future car market is a fait accompli. Market research firms predict the global green car market demand would increase from 2.2 million cars this year to 6.4 million or so in 2020. BK

Green Car Market

Plug-in Electric Vehicles Taking Place of Hybrid Cars

The focus of the eco-friendly vehicle market is shifting from self-charging hybrid electric vehicles (HEVs) to externally charged plug-in hybrid electric vehicles (PHEVs) and electric vehicles (EVs). Although these types of cars account for 2.3 percent of the overall car market for now, the market segment is expected to grow very fast amid tightening environmental regulations.

For the first nine months of this year, the HEV sales volume decreased by 8.5 percent from a year earlier to 356,849 units in the U.S. car market. Those of Toyota, Ford, and GM fell 10.9 percent, 11.0 percent, and 66.0 percent year-on-year, respectively. Meanwhile, PHEVs and EVs are continuing to increase their sell-through. The volume amounted to 97,190 between January and October, already close to last year's total at 97,507. If the current pace continues, the yearly total is estimated to show 20 percent growth at this year's end.

The EV sales volume is going up in China, too. The China Association of Automotive Manufacturers recently adjusted this year's EV sales volume estimate upward from 50,000 to 70,000. The year-on-year growth rate is forecast to reach 297 percent.

This trend is due to an increasing number of consumers are putting fuel efficiency first. It is also in this context that the diesel car sales volume in the U.S. market increased by 7.1 percent from the previous year to 102,559 between January and September. This is particularly significant in that American customers have cared relatively less about fuel economy. Things are similar in the Korean market, too. Gasoline and diesel models' market shares changed from 43.6 percent vs. 42.7 percent to 40.1 percent vs. 48.1 percent between 2013 and 2014.

Automakers are also concentrating on PHEVs and EVs rather than HEVs as well. For example, Volkswagen is planning to release two new EV models in Japan next year, priced at between 36 and 42 million won (US$32,840 and $38,338), and capable of driving at least 185 km after fully being charged. GM will add a PHEV version to the lineup of the CT6, which is scheduled to be launched in the U.S. in the last quarter of next year. It is said that the PHEV, though a full-size sedan, has gas mileage of as high as 29.8 km per liter.

The Hyundai Motor Group, in the meantime, is not going to release a PHEV until next year, though its HEV sell-through is on the rise these days. "The group is working on all types of eco-friendly cars, ranging from HEVs and EVs to fuel cell electric vehicles, but strategic selection and concentration

seems to be more viable," an industry expert pointed out.

Green Car Controversy

In the meantime, the number of beneficiaries of government subsidies for purchasing hybrid cars will be cut from 40,000 to 32,500 next year.

The Environment and Labor Committee of the National Assembly recently held a meeting and decided to reduce the subsidies for 2015 by 7.5 billion won (US$6.7 million) to 32.892 billion won (US$29.555 million).

The ruling Saenuri Party and the Ministry of Environment, back in September, decided to add a subsidy of 1 million won (US$898) per vehicle to the previous tax incentives for hybrid car customers while putting off grant a low-carbon vehicle subsidy from next year to 2021. A total of eight models, including the Sonata, K5, and Prius, benefit from the policy that becomes effective on the first day of 2015.

However, opposition lawmakers in the committee were opposed to the postponement, mentioning that the ministry overestimated the new yearly demand for hybrid cars. During the most recent three years, the average hybrid car sales volume was 25,000 units a year, 15,000 less than the ministry's estimate.

The lawmakers reached an agreement with the others on the condition that the budget for hybrid cars would be lowered while measures would be sought to avoid putting off the implementation. According to the ministry, the revised budget plan is scheduled to be fixed this or next week. BK

Hybrid Competition

LF Sonata Hybrid Records Higher Gas Mileage than Camry Hybrid

The Korea Energy Management Corporation announced on Nov. 27 that Hyundai Motor Company's LF Sonata Hybrid, running on 16-inch tires, recorded gas mileage of 18.2 kilometers per liter (42.8 MPG), which is approximately 9 percent better than that of the YF Sonata Hybrid and 1.8 km higher than that of Toyota's New Camry Hybrid. The mileage is 17.7 km per liter (41.6 MPG) on 17-inch tires.

"At the same time, the LF Sonata Hybrid's CO2 emissions decreased by 6 g/km to 94 g/km, and thus owners of this model can be given the one million won [US$905] government subsidy from next year," the corporation added.

Recently, Hyundai Motor Company announced that it would increase the number of its green car models to 22 by 2020, while raising the average fuel efficiency of its cars by 25 percent. The LF Sonata Hybrid can be regarded as the starting point of the plan.

Between January and October this year, 4,101 consumers opted for the Sonata Hybrid in Korea, and 567 for the Camry Hybrid, respectively. Still, it is the latter, not the former, that is considered to be outperforming the opponent, given the average sales volumes of domestic and imported cars.

During the same period, the hybrid model sale ratio was limited to 4.6 percent for the Sonata, while the percentage was as high as 28 percent for the Camry. The gap is even wider in the United States, where Toyota accounts for over 60 percent of the hybrid vehicle market, with Hyundai at below 10 percent. BK

Toyota's 2014 Camry Hybrid.

Far Afield

Hyundai Motor Group Haphazardly Expands Green Car Lineup


The Hyundai Tucson Ix35 fuel cell electric vehicle undergoes testing in Europe in 2011.

The Hyundai Motor Group announced on Nov. 12 that it would increase the number of its eco-friendly vehicle models from seven to at least 22 between this year and 2020.

"It is expected that hybrid cars will account for more than 60 percent of the eco-friendly car market by 2020," it said, adding, "We will triple the number of hybrid models to 12 by that year."

Hyundai is going to release the New Sonata Hybrid next month before using the technology in various SUVs and compact and small cars. It will launch a hybrid-only model to compete with the Toyota Prius next year, too. A plug-in hybrid electric vehicle (PHEV) version of the Sonata will make its debut in 2015 as well, while five more such models will follow it by 2020. At the same time, the group is planning to release more electric vehicles (EVs) to enrich the lineup of the Soul and Ray, while continuing to work on new hydrogen fuel cell electric vehicles (FCEVs).

Limited Demand Potential Problem

However, expert consensus is that the market demand for EVs and hydrogen FCEVs is rather limited. The National Assembly Budget Office recently expressed a negative view regarding EV subsidies, mentioning that its cost, a lack of charging facilities, and the low budget execution rate for the past four years were unappealing.

"The price gap between EVs and internal combustion engine vehicles is 19.9 million won to 29.52 million won [US$18,143 to $26,916], and thus a subsidy of 15 million won is of no use," the office explained, continuing, "More specific measures have to be taken first for the provision of the subsidy, in view of price competitiveness and technical challenges." In the first half of this year, EVs represented just 0.11 percent of the new cars purchased during the period.

The hydrogen FCEV market is in a far more dire position. Hyundai Motor Company began the mass production of the Tucson FCEV in February last year, but has sold only 26 units to public organizations since then. The model is priced at approximately 150 million won (US$136,731), and is still expensive even after the 60 million won (US$54,708) government subsidy is accounted for. Besides, hydrogen charging stations are difficult to find, and some say a safety risk because of the volatility of hydrogen.

"FCEVs overwhelm other types of green cars when it comes to eco-friendliness," an industry expert remarked, adding, "However, they have no chance of survival for now, due to their high price and safety concerns." In the meantime, green cars accounted for no more than 44 percent of the vehicles used in public institutions in Korea last year. BK

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True Cooperation

Big Businesses Set Out to Help Venture Firms


A shot of the new FKI building in Youido, Seoul.

The Federation of Korean Industries (FKI) presented the major corporations' measures for the promotion of venture firm growth on November 27 at the Creative Economy Expo held at the COEX Convention Center.

There, Samsung Electronics said that it was running a Creative Lab to provide assistance with the steps necessary to create a business. Each team participating in the Creative Lab is given 20 million won (US$18,095) for early-stage assistance, up to 280 million won (US$253,458) for business foundation, and up to 200 million won (US$181,092) at the graduation from the lab. Also, office spaces in the Daegu Center for Creative Economy & Innovation are provided free of charge, along with mentoring and investor networking services.

SK Telecom is running a similar program as well by the name of BRAVO Restart. The benefits also include 20 million won for early-stage business, 100 million won (US$90,521) for technological development, and free office space. One of the most successful results of the program is the Laser Pico Projector. SK Telecom provided nine patents for the development of the micro beam projector. The product is expected to record at least 50 billion won (US$45.2 million) in sales once released in January next year.

Hyundai Motor Company's Venture Plaza is also well known as an in-house venture incubator. PLK Technology has been set up in its framework to develop a lane departure warning system and supply it for 11 models of Hyundai and Kia Motors, including to the Equus, Genesis, and K7.

The LG Group collects its employees' ideas via the in-house portal of LG-LIFE. The employees can suggest possible venture ideas their ideas through the channel to possibly get support. Pocket Photo for smart phone picture printing was one of its outcomes.

The Small and Medium Business Administration announced on Oct. 29 that Korea jumped 17 notches to 17th place between 2013 and 2014 in the business establishment category of the World Bank's business environment evaluation.

In the meantime, the World Bank announces the rankings each year by assessing the business regulations of 189 countries around the world.

The evaluation is split into 10 categories, including startup-friendliness, construction approval and IPR registration. Korea ranked 126th six years ago.

"The government's policy and efforts for a better venture and startup ecosystem, deregulation, assistance for work-at-home companies, and simplification of the incorporation procedure have paid off," the administration explained, adding, "We will continue to make starting a business easier by allowing more firms to be set up online and providing more helpful information with organizations such as the Supreme Court."

IPOs

51.7% of Venture Companies Prefer IPOs to M&As

Domestic venture companies are somewhat negative about M&As.

According to the survey on "Venture Management Status and Policy Tasks" conducted on 302 venture companies and 50 venture capital firms by the Korea Chamber of Commerce & Industry, over half of venture companies had negative opinions about M&As. Fully 51.7 percent of venture companies answered that they would choose an IPO rather than an M&A to the question of whether they would consider reviewing any M&A proposal from conglomerates or other companies. The figure is higher than that of the answer that they would consider M&As (48.3 percent).

However, they showed positive responses towards an IPO.

Among the companies questioned about IPOs, 62.9 percent answered they need it to expand company size and get good results, while the remaining 37.1 percent answered that they would go ahead without an IPO.

Not only venture firms but also members of venture capital firms preferred IPOs to M&As. For VCs, 66.0 percent chose IPOs as the way collect investment money, while only 20 percent choose M&As. BK

Throwing Opportunities Away

Regulations on Fintech Companies Need to be Eliminated

Venture firms and venture capital industry experts are pointing out that government regulations are hindering the development of financial technology, or fintech, companies. Fintech is a concept covering every type of information technology relating to financial services, ranging from payments and remittances to asset management and crowd funding.

"At present, any investment in a prohibited business is subject to various restrictions," said an official at the Small and Medium Business Administration, adding, "We need to come up with measures for promoting crowd funding from an industrial perspective."

These days, new fintech services are gaining a lot of popularity around the world. The typical examples include Alibaba's online money market fund (MMF) and Apple's mobile payment service Apple Pay. However, conditions are far from favorable for such fintech companies in Korea.

"The problem is not limited to crowd funding, and start-ups providing financial services like bitcoin and mobile payments still have to check first if their business pertains to the prohibited businesses," an industry insider commented. He continued, "Government regulations are too tight in the sectors with growth potential, and it makes no sense at all that the group of new technology finance firms is free from restrictions, while venture capital firms are forced to check the prohibited business list."

"The advent of Alibaba and Apple Pay shows that our lifestyle is changing from mobile-based purchases of goods to mobile-based purchases of financial products and services," a University professor pointed out, adding, "A special act has to be enacted for the promotion of fintech companies like in China and Japan." BK

Water-oil Mixing

Korean Research Team Develops Tech to Mix Water and Oil

Dr. Choo Min-chul disperses oil particles into water using a focused ultrasound device.

The Korea Research Institute of Standards and Science (KRISS) announced on Dec. 1 that a research team led by Dr. Choo Min-chul at KRISS has successfully developed a tech to disperse oil at nanoparticle size into water at room temperature.

To mix water and oil, it is important to first make nanoscale oil particles. Otherwise, oil particles stick together. Hence, they are easily separated with water in a short period of time.

The research team has succeeded in dispersing oil particles with a focused ultrasound (FUS) device. The device, which was made using a PZT cylinder, can condense energy in the middle of a cylinder by shooting a 500kHz frequency into the water and oil solution.

The device disperses oil particles in the water at such a small size by maximizing the cavitation, where pressure and high temperature occur owing to ultrasound. Since the device is designed to circulate in the solution, it can also evenly dissolve the particles. The process can be carried out on a large scale and automatically.

The team mixed both Cetiol oil and olive oil with distilled water using this device, without adding surfactants. They found that the mixture was dispersed as a nanoscale emulsion type after six months.

The newly-developed method is expected to be used in diverse areas to make surfactant-free eco-friendly cosmetics, semiconductors, paint, ink, pharmaceutical products, beverages, and medicinal transmitters.

Dr. Choo said, "Our technology is the only one that can mix water and oil at room temperature without using surfactants," adding, "The method can be utilized in not only body-friendly cosmetics but also drugs or food. So, our achievement can exert a huge impact on the industry and society in general." BK

Stem Cells

Korean Research Team Discovers Way to Grow New Blood Vessels

Diagram illustrating the process of growing new blood vessels. New Endothelial Progenitor Cells (yellow) squeeze in next to existing endothelial cells (red) that make up existing blood vessel walls. Then perivascular cells (blue) complete the vessel.

A South Korean research team has opened a new chapter in the prevention of and treatment for cardiovascular disease by discove ring a chemical that induces the growth of new blood vessels.

On Nov. 30, a research team led by Ajou University College of Pharmacy professor Park Sang-kyu and Pusan National University School of Medicine professor Kwon Sang-mo discovered that a kind of bile acid, TUDCA, induces Endothelial Progenitor Cells (EPC) to move from the bone marrow to create new blood vessels. Through experimentation, they determined that TUDCA is a cell signaling messenger that increases the rate of new blood vessel formation in its local area.

TUDCA stands for tauroursodeoxycholic acid, whch is a compound that is made up of Ursodeoxycholic acid (UDCA), one of the secondary bile acids, combined with taurine. Very little TUDCA exists in the body naturally.

The number of patients in Asia with ischaemic blood vessel diseases, or a shortage of oxygen in body tissues, is rising. This type of disease is becoming chronic due to the westernization of eating and living and the beginning of an aging society. However, until now there has not been a fundamental treatment.

The research team recognized the revascularization of ischaemic tissues as the fundamental treatment for this problem. So

they separated and cultivated EPCs from peripheral and cord blood to study them.

Through their studies they finally identified TUDCA as a compound that effectively induces the movement of EPCs to a specific area by using an endogenous compound from preceding research. TUDCA is produced and stored in the gall bladder in response to the amount of cholesterol in the bloodstream.

The research team discovered that more blood vessels are made when EPC circulates in peripheral and cord blood when called by the compound TUDCA.

Furthermore, they found that TUDCA controls the cells by activating a signaling messenger protein after it enters a cell membrane.

Using these findings, the team can artifically add more TUDCA to ischaemic regions like the heart muscle to attract stem cells from the bone marrow and create new blood vessels without side effects.

Professor Park said, "This research will be used in the self-treatment of stem cells effectively without side effects through using bile acid in human body, different from existing treatments."

This research was supported by the Bio and Medical Technology Development Project from Ministry of Science, ICT and Future Planning. It was first published in the online academic journal Stem Cells on Nov 19. BK

Clue of Life

Location of Clue to Understanding Creation of Life

Narry Kim, director at IBS and professor at Seoul National University.

A Korean research team has discovered an important clue to understanding the creation of life.

The Ministry of Science, ICT and Future Planning announced on Nov. 23 that a research team headed by Narry Kim, a professor of the department of biological sciences at Seoul National University and head of the RNA research team at the Institute for Basic Science, has successfully explained the workings of RNA in an early embryo.

Since the embryonic stem cells of animals cannot create RNA by themselves, they make a protein needed to maintain life out of RNA, which comes from the surrounding egg. The RNA slowly disappears in order for embryonic stem cells to grow, but this process has been unable to be identified.

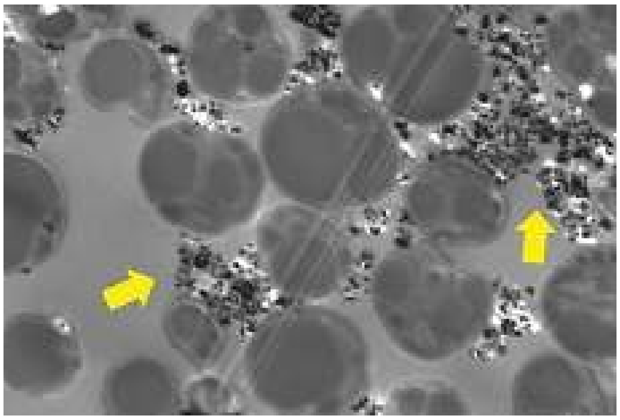
The research team discovered a tail at the end of microRNA that originates from an egg, and which controls the amount of microRNA. In addition, they found that wispy, an enzyme that delivers nucleotides, is related to the process.

After experimenting with fruit flies, they identified that wispy modifies microRNA in an early embryo and causes it to be dissolved. They found that before a life begins, the amount of microRNA is controlled, which makes it possible to maintain life.

The research findings were first published online on Nov. 13 by Molecular Cell, a scientific journal published by Cell Press, and they are scheduled to be published in the December 4 issue. BK

Munching on Rads

Method to Remove Radioactive Materials with Microalgae



The yellow arrows point out the Sr^{2+} in the contaminated water that is changed into carbonate minerals during the microalgal photosynthetic process.

A Korea research team has successfully explained that microalgae in rivers, lakes, and in the sea is very effective in eliminating radioactive materials.

The Korea Atomic Energy Research Institute (KAERI) announced on Nov. 12 that a research team led by Dr. Lee Seung-yeop from KAERI, Jung Kwang-hwan, professor of the Department of Life Science at Sogang University, and Lee Seung-yop, professor of the Department of Mechanical Engineering at Sogang University, discovered that the amount of dissolved radioactive strontium (Sr) is greatly reduced during the microalgal photosynthetic process.

The research team found that when microalgae like Chlorella Vulgaris photosynthesize, they facilitate the combination of CO_2^- and radioactive Sr^{2+} in the water to generate a large amount of $SrCO_3$. They also discovered that the radioactivity of Sr decreases by more than 90 percent when turned into a carbonate mineral, thereby proving that microalgae are effective in removing radioactive Sr.

Existing physicochemical absorption and precipitation methods to get rid of radioactive materials cost a large amount of money and cannot purify contaminated water in a sufficient manner. Thus, the new technique using microalgae is expected to make it possible to treat contaminated water in a more affordable and eco-friendly manner.

The research team is planning to step up efforts to develop eco-friendly methods for eliminating radioactive materials in contaminated waters and soil using microalgae and microorganisms.

The research findings were published online in the November issue of Bioresource Technology, a scientific journal published by Elsevier.

Biotech/Finance Convergence

R&D Craze in Biometric Credit Cards

Research and development efforts for biometric credit cards, which confirm a user's identity in financial transactions using fingerprints or iris scanners, are being actively developed worldwide.

According to sources in the financial and IT industries on Nov. 27, MasterCard recently announced the world's first fingerprint-based credit card that combines biometric authentication and contactless payment technology, in partnership with Zwipe. Using fingerprint sensors, this card recognizes the fingerprint of a user within one second, compares it with those stored in the card, and finally confirms the user's identity. Some Norwegian banks have already introduced the credit card for testing.

Researchers are actively working to integrate biometric technology into credit cards. Global research consultation body Fast Identity Online (FIDO) is focusing on the development of a technology for biometric-based credit card payments. FIDO is a non-governmental organization mainly composed of researchers at PayPal and Bank of America who developed One Time Password (OTP) tokens and security keys in 2007. With the participation of researchers from major IT companies such as Alibaba and Visa this year, the organization is concentrating on studying the fingerprint recognition and authentication processes.

The home page of FIDO shows an authentication method. When people purchase products online via FIDO's home page, they are notified of the payment amount through the mobile device that recognizes the fingerprints of the user for authentication. Even though these technologies have yet to be commercialized, global card companies like Visa or MasterCard might preemptively introduce something similar.

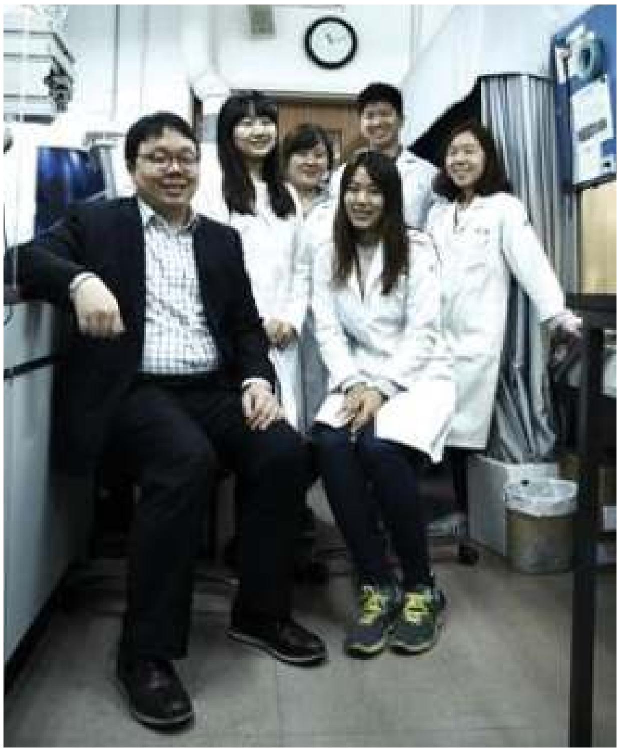
The FIDO is planning to go beyond fingerprint recognition, and to unveil a new authentication method using the voice or iris. The method will create encoded keys on the mobile device and make it impossible to make a payment by others.

In contrast, the local financial sector is passive about the issue. Hence many point out that foreign firms are expected to take the initiative in biometric-based payment technology, and local companies are likely to lose market dominance.

A source in the financial industry explained, "We do know that foreign companies are actively seeking to establish a biometric-based payment platform. But biometric related research imposes a big burden for us, since it could become a sensitive issue stemming from the conservative management policies of local financial companies." The source concluded by saying, "It seems that active research is badly needed for large banks and IT firms."

Easy Diagnosis of Alzheimer's

Only One Drop of Blood Necessary to Diagnose Alzheimer's



Kim Young-soo at the Korea Institute of Science and Technology and his team pose for a photograph.

A Korean research team led by Dr. Kim Young-soo at the Korea Institute of Science and Technology has successfully developed a way to diagnose Alzheimer's disease from only a drop of blood.

Dr. Kim got the idea from the fact that beta amyloids, the protein that causes Alzheimer's disease and a biomarker to diagnose dementia, can be detected with a blood test, since it can move to the blood.

The existence of beta amyloids in the blood has been reported many times, but it has been unclear whether or not an increase in beta amyloids in the brain is reflected with a change in the level of beta amyloids in the blood. However, the research team has succeeded in scientifically proving the phenomenon.

After injecting a high dose of beta amyloids into the brain of a mouse to cause Alzheimer's disease, the team analyzed the amount in the blood. As a result, they found that the level of beta amyloids in the blood rose in tandem with an increase in beta amyloids in the brain.

Dr. Kim said, "We are planning to develop a portable lab-on-a-chip-type nano biosensor aimed at diagnosing Alzheimer's disease with a blood sample." He added, "Ultimately, we'd like to develop a paper biosensor to diagnose Alzheimer's disease by realizing a lab-on-a-chip on paper."

The research findings were first published online on Oct. 27 by Scientific Reports, a scientific journal published by the Nature Publishing Group. BK

Localization

10Gbps Internet Speeds Possible with Korean Technology

A Korean research team has succeeded in developing next-gen optical networking equipment that can deliver 100 times faster 10Gbps Internet service. As a result, it will be possible to localize optical networking equipment that connects households, telephone companies, data centers, and large cities.

The Electronics and Telecommunications Research Institute (ETRI) announced on Nov. 26 that it has successfully developed optical networking equipment capable of transporting data at 10Gbps and a 3.2Tbps-level Optical Carrier Ethernet system, which makes 10Gbps Internet service possible on backbone. It has also successfully finished performance tests through the Korea Advanced Research Network (KOREN). The use of these systems in optical networks will allow users to transmit a file the size of a movie in just four seconds.

Currently, the optical networking equipment market is dominated by foreign companies like Cisco and Huawei. Local companies have manufactured only transmission equipment or equipment for subscribers so far, but they will soon be able to compete with foreign firms for optical networking equipment thanks to ETRI's development of the new technology that integrates the new equipment.

Communications companies could complete the work to

install a separate line for network access within minutes, since it will be possible to make one inclusive system by combining optical fiber, lines, and packet equipment. This will lead to reducing the costs needed to install and operate networks. The technology was chosen as an international standard for the ITU Telecommunication Standardization Sector (ITU-T) and Internet Engineering Task Force (IETF).

ETRI is planning to make an investment in the technology aimed at making 100 times faster optical transceivers for optical network subscribers, and to commercialize it early next year by establishing a research company.

Jung Hyun-kyu, head of the Communications & Internet Research Laboratory at ETRI, said, "With the development of the technology, medium and small communications equipment companies will be able to supply a total solution from subscriber networks to transmission networks. So, they are expected to improve global competitiveness and turn over more than 100 billion won per year." Jung added, "The technology could be used in 5G, cloud computing, the Internet of Things industry, and high-quality multi-media services."

Meanwhile, the global optical Carrier Ethernet market was estimated at US$30 billion last year, and the market is expected to be worth US$42.8 billion in 2017. BK

Radio Direction Finder

Development of Tech to Find Advanced Radio Direction

ETRI researchers are testing a signal detection and broadband multichannel direction finder.

The Electronics & Telecommunications Research Institute (ETRI) succeeded in developing key techniques for a third-generation radio direction finder on its own.

The institute announced on Nov. 24 that it has developed commercially-viable radio direction finders that are more sensitive to weak signals and can detect them over greater ranges, using new techniques in weak signal detection.

The signal detection technology developed by the ETRI uses digital signal processing and removes the noise from the multi-channel signals that it picks up through correlation processing so as to extract pure radio signal sources. This digital signal processing results in double the range at 20 km and double the reception at 6 GHz when compared to existing signal detectors. The bandwidth is improved from 10 MHz to 25 MHz as well, which means that broadband radio signal sources can be found with greater ease. Finally, the new device only costs half of what old signal detectors cost.

This third-generation broadband direction finding technique of ETRI can be used to detect the positions of aircraft and ships in distress. It also allows immediate response to malicious GPS interruptions.

"The technology has a market value of at least 200 billion won [US$180 million] in the private as well as military sectors, and thus can contribute to small firms' technological development," the institute explained, adding, "In addition, the economical yet sufficiently competitive technique will be a great boon for Korean radio measurement and defense companies' overseas business."

ETRI has already signed a 3.1 billion won (US$2.8 million) contract to export the system to the National Telecommunications Commission of the Philippines. It is targeting the European market in Croatia, too. BK

UHD Encoder

Korean Research Team Develops Encoder for UHD Broadcasting

A research team at ETRI checks a newly-developed encoder system while watching 4K videos.

The Electronics and Telecommunications Research Institute (ETRI) announced on Nov. 19 that it has completed the development of a high-efficiency video encoder, which compresses 4K ultra HD videos at 60 frames per second in real time.

The newly-developed encoder for UHD broadcasting can minimize a decline in image resolution using a tech to compress high-speed videos and a parallel distributed processing method. In addition, the encoder is based on software, and thus it is easier to maintain and upgrade compared to hardware-based devices.

ETRI is planning to develop technologies to lighten and accelerate the speed further in order to compress UHD videos in real time on cheaper hardware-based devices.

"Our methods are suitable for next-gen realistic media, which will demand excellent compressing performance and resolution. I think that our research will greatly contribute to the revitalization of various multi-media service markets in the future," said Choi Jin-soo, managing director of the realistic broadcasting media research department at ETRI. BK

Anti-hacker Box

Black Box Developed for Computer Server Security

A Korean research team has successfully developed new black boxes for computers that can record and store hackers' activities, after two and a half years of research and development, and with a US$1 million investment.

Kim Jong-man, former professor of the Department of Electrical and Computer Engineering at the Georgia Institute of Technology, unveiled the Server Black Box at a press event in the Georgia Tech Hotel on Nov. 19 (local time).

Kim, who established Soteria Systems to develop products, and temporarily left the school this summer, got the idea from aircraft black boxes that record flight data.

He remarked, "The Server Black Box is the first module-type device fitted with hardware that records hackers' activities."

The research team headed by Professor Kim is waiting for approval from the United States Patent and Trademark Office, which is scheduled for early next year.

Similar to aircraft's black boxes, the newly-developed device is designed to prevent anyone to delete all the information of a company stored on a network server.

Kim explained, "As cyber attacks are getting more sophisticated and organized, hackers often eliminate all trace of their penetration into the computer system," adding, "So, there are many cases where companies do not even recognize when and how their computers were hacked."

He continued by saying, "However, if the Server Black Box and related software are installed in the system, users can be notified of hacker's penetration in real time."

The former professor also stressed, "So far, hackers' routes of penetration and activity have been identified only with written documents in a cybercrime trial. But it is now possible to demonstrate them in an image by using the Server Black Box, since the device records and stores hackers' activities." BK

Kim Jong-man, former professor of the Georgia Institute of Technology, showcases his hardware-based security solution called Server Black Box at the Georgia Tech Hotel on Nov. 19 (local time).

IDB-IIC Annual General Meetings

Korean, Latin American Finance Leaders Meet in Busan in March 2015

Luis Alberto Moreno (left), president of the Inter-American Development Bank (IDB), speaks with Choi Kyung-hwan (right), minister of Strategy and Finance of South Korea.

IDB-IIC Annual Meeting of the Boards of Governors will be held in BEXCO, Busan from March 26 to 29, 2015. It is being co-hosted by the Ministry of Strategy and Finance and the Inter-American Development Bank (IDB). This meeting is the 56th Annual Meeting of the Board of Governors of the IDB and the 30th Annual Meeting of the Board of Governors of the Inter-American Investment Corporation (IIC).

Approximately 3,000 participants from 50 countries are expected to attend. There will also be business forums such as a Korea- Latin America and the Caribbean (LAC) knowledge sharing forum and an Korea-LAC business forum to stimulate the cooperation between Korea and LAC countries. Forum topics include Development Achievements and Emerging Trends, Trade and Investment, Development of Sustainable Energy, ICT Innovation and Productivity, Analysis of Labor Market, and Sustainable Cities. In the business forum, programs such as 1:1 Business Matchmaking, a TPO Training program, and a Technical Tour will be available.

The IDB, established in 1959, is the leading source of development financing for Latin America and the Caribbean with the goals of achieving measurable results and increasing integrity, transparency, and accountability. There are a total of 48 shareholder countries in the IDB, of which 26 are from Latin America and the Caribbean. Korea became the second IDB member in Asia in 2005 followed by Japan, which joined the IDB in 1977.

Since Korea's participation in the IDB, the trade volume between Korea and the LAC has increased by two and a half times, from US$20 billion in 2005 to US$54.7 billion USD in 2013. During the same time, direct investment from Korea in the region has also leaped by four times, from US$560 million to US$22.5 billion. In addition, Korean companies are also enthusiastically expanding their participation in the IDB's loan business and technical cooperation, by procurement and technical consulting respectively.

The Korean government is making the most of next year's Inter-American Development Bank (IDB) general meeting to help Korean companies find their way into Latin American markets.

Minister of Strategy and Finance Choi Kyung-hwan recently met with IDB President Luis Alberto Moreno in Seoul and asked for his cooperation to that end. "We will try to share our economic development expertise with Latin American countries by means of trust funding projects, knowledge sharing projects, etc.," he added. "The annual meeting scheduled for March in Busan will be an important venue for closer cooperation between the two regions," the IDB president said in response.

The government is planning to focus on the creation of business opportunities in various sectors, such as energy, construction, and IT, during the conference period. The general assembly will be followed by the Korea-Latin America Business Summit, Korea-Latin America Knowledge Sharing Forum, Youth Forum, and many more events. The official website, idb2015.org, was recently opened, too. More than 3,000 visitors, including economic ministers, central bank governors, and financial industry figures, are expected to join the conference from 48 countries.

Korea acceded to the IDB in 2005, when it promised to provide trust funds of US$180 million for 10 years for the purposes of poverty eradication.

Event Overview

Title	2015 IDB-IIC Annual Meeting of the of the Boards of Governors		
Date	March 26 - 29, 2015	Venue	BEXCO, Busan
Hosted by	IDB, Ministry of Strategy and Finance of Korea		
Participants	Approximately 3,000 participants from 50 countries		
Program	IDB-IIC Annual Meeting , Youth Seminar Korea-LAC Knowledge Sharing Forum , Korea-LAC Business Forum		
Website	idb2015.kr		
Contact	idb2015@korea.kr		

나랏말ᄊᆞ미

Another Korean Wave

Korean Content Praised at International Content Conference

The nine-tailed fox character called White Fox, created by webcomic artist Ko Young-hun, will soon be featured in an Avengers cartoon produced by Marvel.

Global content business people that participated in the International Content Conference (DICON) 2014 which opened on Nov. 18 at Seoul's COEX convention center, highly appraised the growth potential of the South Korean content industry.

In particular, a nine-tailed fox from Korean mythology is going to appear in the Avengers cartoon, which is globally popular.

C.B. Cebulski, vice president of Marvel Entertainment, who visited Korea to attend DICON 2014, said at the meeting with reporters before the conference, “A hero called White Fox, which is based on the Korean mythological nine-tailed fox, appeared in Marvel's first webcomic, and it is quite popular,” adding, “This character is also going to show up in the U.S. Avengers.”

Marvel is publishing the first official webcomic called “Avengers: Electric Rain” on the webtoon page of Daum Communications, holding hands with Daum Kakao from Oct. 10. The webcomic is created by Korean webcomic artist Ko Young-hun, in which the Avengers appear in Seoul. Artist Ko added a Korean nine-tailed fox character to the webcomic. According to Marvel, the webcomic ranked second in downloads on the Daum Webtoon site, following a webcomic called Misaeng.

Cebulski said, “Marvel uses characters, yet has a principle to localize content. In terms of that, we are using Korean artists in this time’s publishing the webcomic. Korea is the first country for foreign artists to make artwork based on Marvel characters.” He added, “We are going to expand the webcomic in the Asia region such as Taiwan and China, and it will be released as a webtoon in the U.S. after translation into English.”

Asia-Pacific Regional General Manager of Youtube David Powell also said, “Korean artists are leading new trends amid a variety of demands from consumers. Korean original content created by innovative creators has been seeing success, and Youtube is going to continuously connect content with an audience.” BK

Local Gaming Firms

Chinese, European Companies Eye Korean Gaming Companies

Korean game developers are receiving an increasing number of coy glances from overseas firms. Chinese companies are suggesting large-scale investments, and European countries are also actively seeking Korean gaming companies.

Currently, local gaming companies are heavily regulated by the government, and the gaming market is already saturated. The mobile gaming market is also growing slowly, and thus the market is expected to be stalled starting in 2015. Therefore, local game developers are pursuing overseas expansion, helped by the fact that they are recognized for technical skills and value in other countries.

According to industry sources on Nov. 10, Chinese Internet companies like Tencent and Shanda Games have made more than 1 trillion won (US$915 million) of investment in Korea's game and content developers.

On the same day, Tencent purchased an estimated 25 percent stake in 4:33 Creative Lab, a Korean gaming company famous for Blade and Arrow, through a consortium jointly established by Line, becoming a major shareholder. The Chinese Internet giant has invested about 120 billion won (US$109.8 million) into the consortium.

Previously, Tencent pumped money into Korean firms like Netmarble Games, Carbon Eyed, and PATI Games,

with an investment of 560 billion won (US$512 million), 100 billion won (US$91.4 million), and 20 billion won (US$18.3 million), respectively.

The Chinese firm is said to have invested around 1 trillion won (US$915 million) in Korean gaming and content companies and software venture firms. If Shanda Games' 160 billion won (US$146 million) investment in its acquisition of ActozSoft and Identity Games is taken into account, the total investment in Korean gaming companies by Chinese firms exceeds 1 trillion won.

European countries are also trying to attract Korean game developers by encouraging them to move their headquarters or set up local branches in their countries. Last year, companies in Germany and the U.K. made an effort to attract Korean gaming companies at G-STAR 2013, Korea's largest game exhibition. The German federal state of Brandenburg will set up a booth at this year's G-STAR scheduled to be held in Busan from Nov. 20 to 23, and will also hold an investment briefing to attract Korean gaming companies. Brandenburg is aggressively seeking to attract Korean firms through incentives of up to 40 percent of total investments, with a promise to provide support for research, development, and infrastructure. BK

A screenshot from the mobile game Blade for Kakao, developed by 4:33 Creative Lab.

Entertainment Platform

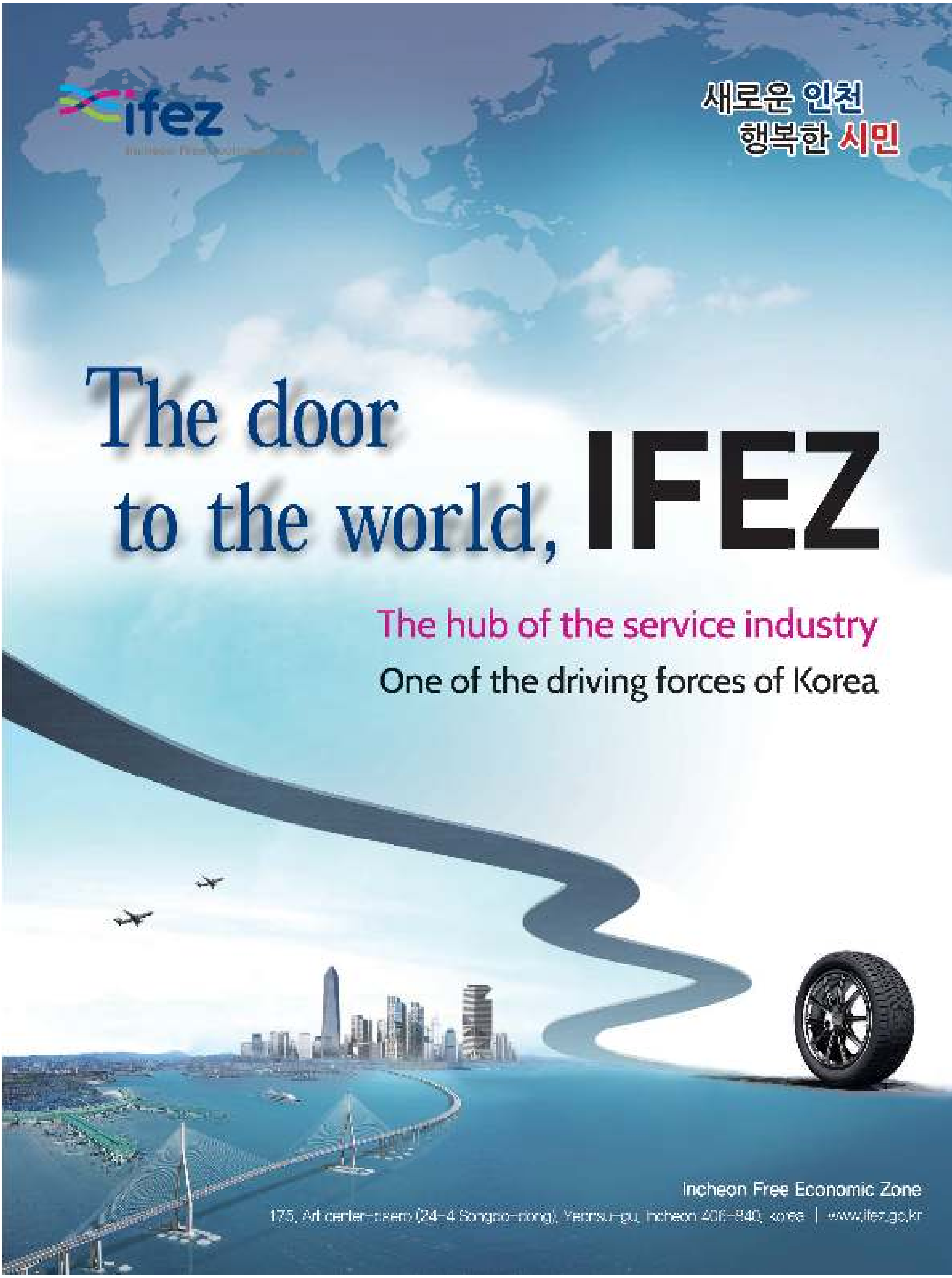
CJ CGV Shooting for Global #1 Entertainment Network

CJ CGV started its overseas business in Shanghai in October 2006. On Nov. 14 of this year, it opened its 34th movie theater in Yancheng. Also, it opened another one in Los Angeles in June 2010. Additionally it took over Megastar, the number one multiplex in Vietnam, in July 2011 to turn a profit before brand integration in January this year. At the same time, CJ CGV has been entrusted with the management of the Blitz Megaplex in Indonesia, to spread the film culture of Korea.

These aggressive steps share the same thread with the CJ Group's vision for becoming a global culture creator that spreads Korean culinary culture, cultural content, lifestyle, and much more worldwide. The CJ Group is planning to reach 100 trillion won (US$89.9 billion) in sales, 10 trillion won (US$8.9 billion) in operating profits, and 70 percent in its overseas sales ratio by 2020. Specific action plans to this end include a paradigm shift from a film-centered multiplex toward an all-in-one entertainment platform for cultural experience.

CJ CGV is also the first multiplex in China. It has 272 screens in 34 major cities such as Tianjin, Wuhan, Beijing, Shenyang, and Fushun. It is also running 117 screens in 17 theaters in Vietnam, and is going to increase the numbers to 146 and 22 by the end of this year. BK

The CJ CGV location in Beijing.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